CONSTRUCTION NEWS

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RAILWAYS.

MASSACHUSETTS.—Grand Trunk R. System: Southern New England Ry. Co. The formal organization of the company which will connect the Canadian line of the system with the Atlantic seaboard at Providence, R. I., has been effected. The first construction in New England will be a road from Palmer, Mass., to Providence, R. I. It is expected that a map of the route in Massachusetts will be filed with the railroad commissioners in the near future. F. H. Fitzhugh, First Vice-Pres. of the Grand Trunk, is Pres. of the new company. The other directors are as follows: Clarence M. Hays, Pres., of the Grand Trunk, Montreal; W. H. Fitzhugh and H. G. Kelley, also of the Grand Trunk; G. C. Jones and C. W. Witters, of the Central Vermont R. R., St. Albans, Vt.; F. H. Baker, of Boston, and John S. Murdock, of Providence, R. I.

NEW YORK.—Erie R. R.—The contracts recently let for double tracking will greatly facilitate operation. Plans are being made for extensive improvements such as yards, shops and grade crossing improvements, but this company has found it impossible to sell its securities at the price named by the Public Service Commission of New York. This may be remedied in the near future as the company is now earning a comfortable surplus over its fixed charges and all funds thus earned are being put back in the property.

PENNSYLVANIA.—Baltimore & Ohio R. R.—Numerous improvements are being planned in addition to the extensive rehabilitation, which has been going on continuously for the last decade. The Ohio River Line and the West Virginia Short Line are being double-tracked between New Martinsville and Brooklyn Junction. These improvements will facilitate the handling of coal traffic from the Clarksburg-Fairmont region to the Great Lakes. This creates a new line for coal going to ports on the Great Lakes and also a low grade route for products from West Virginia regions destined for points on the Baltimore & Ohio Southwestern, which will be handled through Cincinnati. In connection with the present Wheeling division it provides a 4-track line to the Great Lakes.

PENNSYLVANIA.—Pennsylvania R. R.—This company will spend $4,000,000 in shops and classification yards at Northumberland, Pa., the construction work to begin within the next few days and be completed by the later part of September. Building of the classification yards at Northumberland was necessitated by congestion of freight traffic at Sunbury, Pa. Traffic from western Pennsylvania to the southern portion of the state and to New England has of recent years been diverted from the main line over the Williamsport division, and through the Sunbury terminals. These facilities have, however, become so congested that it was decided to build the new yard. On account of the size of the terminals a shop will be necessary to repair equipment. Over 700 acres of land have been bought, stretching along the Susquehanna River for over 3 miles. The yards will contain 180 miles of track, a round house, machine and boiler shops. It will be divided into 10 distinct yards, operated by gravity. They will have a capacity of 5,500 cars.

MARYLAND.—Washington, Potomac & Chesapeake Ry. Co. has applied to the Public Service Commission for authority to increase its stocks and bonds, each from $500,000 to $2,000,000, and proposes to extend its line from Brandywine, Md., to Bennings, D. C., about 17 miles, and from Mechanicsville, Md., to Cedar Point and Point Lookout, about 35 miles; also to rebuild the existing line from Brandywine to Mechanicsville, 21 miles. Hy. W. Watson, Franklin Bank Bldg., Philadelphia, Pa., is Pres.

VIRGINIA.—Norfolk & Cairo R. R.—Plans are being made to connect the Atlantic seaboard with Cairo. Several surveys have been made in Kentucky and Virginia. Two of these lines, after reaching Virginia, pass through the city of Bristol, one of them bearing to the south of the Blue Ridge, forty or fifty miles south of Roanoke. The other will go through Roanoke and is known as the middle route, using the south bank of Roanoke River and designed to unite with some road running west from Norfolk and already built. The third line, passing through the Cumberland Mountains, will strike north of Roanoke and connect, it is said, with the Chesapeake & Western, a part of which is built and in operation. This route will go through Big Stone Gap, down the Clear Fork, and through Bland and Craig Counties, not touching either Roanoke or Bristol. L. W. Goode, 111 Broadway, New York, is interested.

NORTH CAROLINA.—Charleston & Northwestern Ry. Co.—This company recently incorporated by William C. Miller, Richard S. Whaley and William C. Bissell, to build a railroad from Mount Pleasant, northeasterly to Guering's Bridge, through Christ Church Parish, thence northwesterly to Bonneau's, through the parishes of St. Thomas, St. John's, Berkeley and St. Stephens; also a branch from the main line, in the vicinity of Guering's Bridge to McClellanville, through the parishes of Christ Church and St. James, Santee, or through Christ Church, St. Thomas and St. James Santee. The total length is about 60 miles.

ILLINOIS.—Illinois Central R. R.—Improvements contemplated includes the construction of a double track from Junction to Parkway, located near Hawthorne, at a cost of $200,000, and additional tracks between Blue Island Junction and Matteson, Ill., costing $908,000, provision for which was made some time ago. The company will also improve the drainage and sewerage facilities at its Burnside shops.

*TEXAS.—El Paso & Southwestern R. R. Co.—Bids will be received in accordance with forms prepared by this company until July 25, for the construction of the graduation and masonry of 60 miles of railway roadbed, including incidental work, in Arizona. The principal items are, approximately: Grading, 2,000,000 cu. yds.; foundation excavation, 30,000 cu. yds.; concrete, 30,000 cu. yds. Work to be done in accordance with plans and specifications on file in the office of the Engineer Maintenance of Way, Southwestern Bldg., El Paso, Texas. H. J. Simmons is Gen. Mgr.

TEXAS.—St. Louis & San Francisco Ry.—An extension will be built from Brady to Mason, about 30 miles. M. C. Byers, St. Louis, Mo., is Ch. Engr.

CALIFORNIA.—Northwestern Pacific R. R. Co.—Announcement has been made that this company will operate the Oregon & Eureka R. R. after July 1. When the Santa Fe and the Southern Pacific united in equal ownership in the Northwestern Pacific they took over the California Northwestern, the North Shore, the Eureka and Klamath and the Oregon and Eureka roads. An agreement was reached by which the line should be made continuous from here to Eureka. Work is now going forward to close the gap between Willits and Shively. This done, there will be through rail connection between San Francisco and Eureka. The next step in the general plan to go northward into Oregon was the extension above Eureka. The absorption of the Oregon and Eureka line for operating purposes was a natural preliminary. W. C. Edes, San Francisco, Cal., is Ch. Engr.

*ONTARIO.—The Algoma Central & Hudson Bay R. R. Co.—Bids for the construction of the Algoma Central Ry. extension from Hobon, on the Canadian Pacific Ry., northerly to the National Transcontinental Ry., at a point approximately 142 miles west of Cochrane, a distance of 101 miles, will be received up to noon, July 15. The work includes all construction work to sub-grade and in addition, track laying and ballasting in accordance with plans, profiles, forms of tender and specifications at the office of the Chief Engineer, Sault Ste. Marie, Ont. All bids are to be addressed to R. S. McCormick, Ch. Engr., Algoma Central Ry., Sault Ste. Marie, Ont.

ELECTRIC RAILWAYS.

EAST LEE, MASS.—A franchise has been granted to the Berkshire St. Ry. Co., Pittsfield, for an extension to East Lee.

SWANSEA, MASS.—The Providence & Fall River Street Ry. Co. has received a franchise to extend its tracks from North Swansea to the Warren-Swansea State line. This will be part of the proposed railway line from Providence to Newport. A. C. Dole, Swansea Center, is Supt. Noted on Jan. 19.

CAIRO, N. Y.—The Catskill Traction Co. has been granted a franchise to extend its tracks to Cairo.

EAST AURORA, N. Y.—The Buffalo Southern Ry. Co. contemplates an extension to East Aurora. Frederick Wing, 2433 Seneca St., Buffalo, is Ch. Engr.

NEW CASTLE, PA.—Plans are being considered by the Mahoning and Shenango Ry. & Light Co. for the construction of an extension to Cascade Park. M. E. McCaskey, Youngstown, Ohio, is Vice-Pres. and Gen. Mgr.

BIGLERTOWN, PA.—The Conewago & Southern R. R. Co. is reported chartered to build a railway between Biglerville, Arendtsville and Cashtown. The directors are H. W. Hamblin, Harrisburg; M. A. Garvin and J. J. Garvin, Gettysburg.

MASONTOWN, PA.—Application will soon be made at Harrisburg for an extension of the West Penn traction system through Masontown, Pa., to Morgantown, W. Va. The new line will be constructed as the Masontown-Morgantown Street Ry. Co. The first section to be built will be from Masontown to New Geneva, Pa., about five miles. The road will be built ultimately to Point Marion, Pa., and thence to Morgantown, W. Va. The West Penn Traction interests are also planning southern extensions from Masontown.

PITTSBURG, PA.—The Pittsburg Railways Co. is seeking a double track right of way through McCroll Township. The company desires to double track its line from the power house to the Riverview switch. F. Uhlenhart, Jr., 435 Sixth Ave., Pittsburg, is Ch. Engr.

CUMBERLAND, MD.—Application has been made, it is reported, to charter the Ridgeley & Miller Avenue Ry. Co. to build a line from the Blue Ridge over the Potomac River to the farm owned by John L. Miller, about two miles. A connection with the Cumberland Electric Ry. will be made. The incorporators are John L. Miller, Alfred Ridgeley, J. F. Vandergrift, and R. A. Radcliffe, all of Ridgeley, W. Va., and Conrad Muller, Cumberland, Md.

ABINGDON, VA.—The Virginia Carolina Ry. has made arrangements for the construction of an extension from Green Cove, Va., to Wilkesboro, N. C., by way of Jefferson, N. C., about 50 miles.

DANVILLE, VA.—The Danville Traction & Power Co. is reported organized to take over the Danville Ry. & Electric Co. Improvements and extensions will be made. John F. Rison is Pres., J. R. Jopling is Vice-Pres., S. Lanier is Secy. and Treas., N. W. Berkeley is Supt. and Wm. H. Leigh, Counsel. The directors are J. I. Pritchett, J. P. Swanson, J. L. Penn, R. A. James, C. G. Holland and G. G. Temple.

BRIDGEPORT, W. VA.—At a recent meeting held in Grafton of the Grafton, Fairmont & Clarksburg Traction Co., the route of the new road was definitely settled, and orders were issued for the making of the final survey from Gridgeport to Fetterman. The officials of the company announce that the stock necessary to complete the road has been secured. Connections will be made at Bridgeport with the Fairmont & Clarksburg Traction Co., and at Fetterman with the Grafton Traction Co.

KEYSER, W. VA.—The Cumberland & Westernport Electric Ry. Co. is planning an extension from Westernport to Piedmont and Keyser, W. Va., about six miles.

RIDGEWAY, N. C.—The North Carolina Virginia Ry. Co. has been granted supplemental articles of incorporation from the State Corporation Commission to build an electric railway from the northerly border line of North Carolina to Ridgeway, about six miles. The offices have been moved from Ridgeway to Roanoke, Va.

ORLANDO, FLA.—The Citrus Southern Electric Ry. Co. has made an application for a charter to build a 45 mile railway to connect Sanford, Orlando, Kissimmee and St. Cloud. T. K. Miller is Pres., and Moore Kelly is Secy and Treas.

MEMPHIS, TENN.—The Tennessee Traction Co. is planning, it is stated, for the construction of an electric railway from Memphis to Brownsville. The road will ultimately be extended to Jackson.

MEMPHIS, TENN.—The Memphis Street R. R. Co. will construct its contemplated cross-town line at once, according to press reports. The line will extend from Agnes Pl. to Poplar Ave.

SOUTH MEMPHIS (Memphis post office), Tenn.—Two extensions will probably be started during the summer by the Lakeview Traction Co., one from South Memphis to its terminal at Third St. and Union Ave., and the other from Horn Lake into the Mississippi delta. Walter Goodman is Vice-Pres.

BOWLING GREEN, KY.—A railway is being considered between Bowling Green and Franklin, Ky.

COLUMBUS, OHIO.—The Twin City Traction Co., of Dennison, Ohio, has been incorporated by R. E. Westfall, M. H. Huffman, Smith W. Bennett, M. R. Thornton, and H. Miller, all of Columbus. John T. Brooks, of New York, owner of the present Dennison-Uhrichsville Street Ry. Co., is behind the concern which is expected to take over the old corporation.

COLUMBUS, OHIO.—The Cleveland Underground Rapid Transit Co., Cleveland, has filed papers with the Secretary of State increasing its capital stock from $10,000 to $3,500,000. The company will build an underground railroad system in Cleveland, authority for which was received from the Ohio General Assembly.

KOKOMO, IND.—The Kokomo, Frankfort & Western Traction Co. has let a contract to W. H. SCHOT & CO., Chicago, Ill., for the construction of a traction line from Kokomo to Frankfort, about 26 miles. George J. Marott is Pres.

INDIANAPOLIS, IND.—The Indianapolis, Chicago & Meridian R. R. Co. announces that bids will soon be asked for the construction of an electric line from Indianapolis to Sheridan, and ultimately to Hammond, including a power station at Monticello. M. J. Moreland is Secy. and Treas.

NEWCASTLE, IND.—The officials of the Indianapolis, Newcastle & Toledo Traction Co. announce that bids will soon be asked for the construction of an extension of a line from Newcastle to Muncie.

SULLIVAN, IND.—The Vincennes North & South Traction Co. will build a railway from Decker to Sullivan. B. M. Willoughby, Vincennes, is Pres.

DETROIT, MICH.—The Detroit United Ry. Co. is planning to extend its line on Third Ave. F. W. Brooks, 12 Woodward Ave., Detroit, is Gen. Mgr.

FORT SMITH, ARK.—An extension to Mulberry, Ark., is being promoted by the Fort Smith Light & Traction Co. The rights of way are being secured. L. R. Robertson, Fort Smith, is Ch. Engr.

BARTLETT, TEX.—It is announced that the Bartlett-Western Ry. Co., having recently taken over the railroad that now runs from Bartlett to a point east of here, 24 miles, will extend the line in both directions. Among the incorporators of the purchasing company are J. L. Bailey, Temple; C. J. Grainger, Palestine, and J. W. Jackson, Bartlett.

SALT LAKE CITY, UTAH.—An application for a franchise has been made by the Salt Lake & Los Angeles Ry. Co. to build a double track line over certain streets in the western part of Salt Lake City.

TACOMA, WASH.—The Tacoma Ry. & Power Co. has been granted the right by the City Council to operate a railway in this city.

SALEM, ORE.—A franchise has been granted to the Oregon Electric Ry. Co. to lay tracks on certain streets.

SANTA MONICA, CAL.—Bids will be received by G. A. Murray, City Clk., until July 10 for the purchase of a franchise to operate a street railway in certain streets for a period of 40 years.

BRANTFORD, ONT.—Bids are being asked by the Brantford & Port Dover Ry. for the construction and equipment of its 30½ mile railway, steel towers, 6,600-volt, single phase, and five large bridges. Surveys have been made.

LIGHT AND POWER PLANTS.

*(*Denotes that this work is advertised in Engineering News.)*

MANSFIELD, MASS.—A bond issue of $22,500 has been voted to be used for extending and improving the municipal electric light plant.

BOSTON, MASS.—Bids will be received until July 5 by Charles Logue, Clk., School House Comm., for heating and ventilating apparatus in Quincy School.

NEW YORK, N. Y.—Bids will be received by C. B. J. Snyder, Supt. of School Buildings, Park Ave. and 59th St., until 11 a. m., on July 3, as follows: No. 4. For installing electric equipment in New P. S. 40, on the northerly side of 126th St., between Briggs and Bainbridge Aves. No. 5. For alterations and repairs to heating and ventilating apparatus in Public Schools 2, 3, 4, 5, 6, 8, 10, 11, 12, 13, 16, 20, 21, 23, 25, 27, 28, 30, 31, 32, 33, 34, 35, 36, 39, 43, Morris High School and Cromona Athletic Field. No. 6. For repairing and refinishing old furniture at Public Schools 5, 10, 43, 54, 69, 84, 87, 94, 109, 184 and 186. The bid to be submitted must include the entire work on all schools and award will be made thereon. No. 7. For repairs, alterations and additions to the electric equipment in Public School 109, Rivington and Suffolk Sts. No. 8. For alterations and repairs to heating and ventilating apparatus in Public Schools 62, 77, 80, 105 and Stuyvesant High School, Borough of Manhattan, and also in Public Schools 17, 28 and 37. The amount of security required is as follows: P. S., 62, $400; P. S. 77, $300; P. S. 80, $200; P. S. 105, $900; S. H. S., $400; P. S. 17, $200; P. S. 28, $300; P. S. 37, $300. A separate proposal must be submitted for each school and award will be made thereon. On Nos. 4, 6 and 7 the bids will be compared and the contract will be awarded in a lump sum to the lowest bidder on each contract. On Nos. 5 and 8 the bidders must state the price of each item by which the bids will be tested. Blank forms, plans and specifications may be obtained at the office of the Superintendent at Estimating Room, 9th floor, Hall of the Board of Education, Park Ave. and 59th St., Borough of Manhattan.

MONROE, N. Y.—The Public Service Commission has authorized the Orange & Rockland Electric Co., Monroe, N. Y., to execute a mortgage to secure an issue of $500,000 in bonds. The company has received authority to issue bonds to the amount of $134,000, of which the proceeds of $57,000 are to be used to refund outstanding bonds, $37,000 to discharge obligations of the company incurred for capital purposes, $5,000 to discharge accounts incurred for capital purposes and $44,000 for improvement and extensions to its plant and system located in Monroe.

BABYLON, L. I., N. Y.—Bids will be received by Henry S. Johnson, Clk. District No. 2, until July 5, for the construction of a heating plant. Inglee & Hart, Amityville, L. I., are the Archs.

NORWICH, N. Y.—The Norwich Pharmacal Co. will add to its manufacturing plant a one-story power house, 40 × 80 ft., brick and concrete construction.

ASBURY PARK, N. J.—Bids will be received at the office of James Knox Taylor, Supervy. Arch., Treasury Dept., Washington, D. C., until 3 p. m. on July 5 for a hot-water heating apparatus at the U. S. post-office, Asbury Park, N. J. Plans and specification, copies of which may be had at the office of the Supervising Architect or at the office of the Superintendent of the Building.

HARRISBURG, PA.—The Central Pennsylvania Traction Co. is contemplating the installation of 1,000-KW. generators.

MEADVILLE, PA.—The Northwestern Pennsylvania Ry. Co. will purchase one 200-KW. rotary converter and one 300-KW. motor-generator set, it is stated. C. L. Murray is Gen. Mgr.

FLORA DALE, PA.—The Fruit Growers' Association is planning to enlarge its hall. A lighting, heating and ventilating system will be installed.

BALTIMORE, MD.—Bids will be received until July 5 by Robert J. McCuen, Supt. of Lamps and Lighting, for the installation of a street lighting system on Lexington St. Ornamental incandesecent lamps will be used.

BALTIMORE, MD.—The Consolidated Gas, Electric Light & Power Co. will enlarge its plant by adding 2,000,000 cu. ft. of space.

TAKOMA PARK, D. C.—The installation of an electric light system in Takoma Park is being considered. Negotiations with the Potomac Electric Power Co., of Washington, D. C., to install and maintain the service will probably be made.

ROCKYMOUNT, VA.—See item under Water Supply—Irrigation.

NATIONAL SOLDIERS' HOME, VA.—Bids will be received at the office of John T. Hume, Southern Branch N. H. D. V. S., National Soldiers' Home, Va., for installing electric-driven sewerage pumps in Buildings Nos. 19 and 60, until 1.30 p. m., July 14.

BLUEFIELD, W. VA.—Plans are being prepared by T. George Carroll, Baltimore, Md., for the erection of a retort house and apparatus rooms for the Bluefield Gas & Power Co. The proposed building will be of brick, 50 × 100 ft., two stories, with stone and concrete trimmings, slate, and concrete foundation. Four furnaces will be installed and the equipment for generating power will be of the latest type.

✚CHARLESTON, S. C.—A contract for the construction of a 3-story steel and concrete power-house, 115 ft. square, has been awarded to W. W. LINDSAY & CO. by the United Gas Improvement Co.

EDGEFIELD, S. C.—J. B. McCrary & Co., Atlanta, Ga., contemplates the construction of a municipal electric-light plant, for which $15,000 bonds have been issued. Noted on June 1.

ALBANY, GA.—A bond issue of $50,000 has been voted for the construction of a gas plant.

✚ATLANTA, GA.—A contract for electric work for the administration building and hospital at the Atlanta Penitentiary has been awarded to HERBRICK & LAWRENCE, Nashville, Tenn.

✚DYERSBURG, TENN.—The contracts for engines, boilers and generators to be installed by the City Water and Light Department, for which bids were opened June 13, have been awarded as follows: The ALLEN ENGINEERING CO., Memphis, Tenn., engines; DAR SHEA BOILER WORKS, Memphis, Tenn., boilers; the GENERAL ELECTRIC CO., Schenectady, N. Y., generators.

✚MIDWAY, KY.—The contract for the equipment for the generating station and street lighting system has been awarded to MOORE-YOUNG ELECTRIC CO., Lexington, Ky.

COLUMBUS, OHIO.—The city, it is said, will soon advertise for bids for furnishing and erecting 900 cluster lights on the principal streets of the city. Howell & Thomas, Broad and Fourth Sts., Columbus, are the Archs. The cost of the installation, complete, is estimated at $100,000, including lamp standards, to cost $40,000.

HOCKING (The Plains post-office), OHIO.—John A. Stewart, of the Stewart Electric Co., Cincinnati, and owner of the Hocking Electric Power Co., Nelsonville, which supplies Hocking with light and power, is heading a second company, which proposes to build a central power plant in the Hocking mining district.

✚CUYAHOGA FALLS, OHIO.—The Northern Ohio Traction Co. has awarded the contract for electrical equipment for a new power-house to the WESTINGHOUSE ELECTRIC & MFG. CO., at $275,000.

✚SANDUSKY, OHIO.—A contract for the construction of a boiler room addition to the Eighth Ward school has been awarded to ALFRED SCHNURR & WALSH BROS., at $6,190.

MARION, IND.—J. L. McCulloch has ordered plans on which he will invite bids for the erection and equipment of an artificial gas plant, also for the construction of an 8-in. pipe line about eight miles long.

✚SPRINGFIELD, ILL.—A contract for constructing an addition to the lighting station at Tenth St. and Capitol Ave., for the Springfield Light, Heat & Power Co., has been awarded to the DANIEL EVANS CONSTRUCTION CO., St. Louis, Mo. The estimated cost is $25,000.

BEAVER DAM, WIS.—An ornamental street-lighting system is being considered.

MINOCQUA, WIS.—Bids will be received until July 6, extended from June 23, for the construction of an electric light plant and system. W. H. Fisher is Town Chn. Noted June 22.

✚STOUGHTON, WIS.—The general contract for furnishing and installing the equipment for the new municipal electric light and power plant has been awarded to the POWER & ENGINEERING CO., Minneapolis, Minn.

✚WEBSTER CITY, IOWA.—The City Council has awarded the contract for equipment for the municipal electric-light plant, bids for which were opened June 7, as follows: for engines, boilers, piping and heaters, to the MURRAY IRON WORKS, Burlington, Iowa, at $12,000; and to the WESTINGHOUSE ELECTRIC & MFG. CO., Pittsburg, Pa., at $9,998.

WEBSTER CITY, IOWA.—The Fort Dodge, Des Moines & Southern R. R., Boone, Iowa, has made a proposition to furnish the city with electricity from its plant at Fraser, and is also contemplating the construction of an electric street railway.

✚MINNEAPOLIS, MINN.—The Twentieth Avenue Publicity Club has awarded a contract for lamp-posts and standards to the FLOUR CITY IRON WORKS.

ST. PAUL, MINN.—Specifications for city lighting have been completed which cover gas and electric lighting and the gasoline lamp post system. It is said bids will be asked on other propositions. The city has appropriated $75,000 for the purchase of a system of lamps and lamp heads, and bids will be asked for the maintenance of this system should the city find it feasible to enter into such a contract.

MELVERN, KAN.—An electric lighting system is being considered. The electricity will probably be brought from Lyndon.

KANSAS CITY, KAN.—Plans are being prepared by the McLaughlin Engineering Co., Room 507, Reliance Bldg., Kansas City, Mo., for the proposed municipal electric light plant and distributing system. The estimated cost is $350,000.

MANHATTAN, KAN.—Plans have been made for an interurban railway from Manhattan to Fort Riley, where it will connect with the Union Light & Power Co. The State Public Utilities Commission has granted a certificate authorizing the Manhattan City & Interurban Ry. Co. to issue bonds to the amount of $200,000 for the purpose of building the road. J. T. West, 216 Yuma St., Manhattan, is Gen. Mgr.

VALLEY CITY, N. DAK.—Bids will be received by the City Council until July 3 for electric lamps, wire, carbons, cylinder and other oils and such other materials as are needed in connection with the operation of an electric-light plant.

SPRINGFIELD, MO.—Bonds of $300,000 have been issued by the Springfield Ry. & Light Co., to be used for extensions and improvements to its system. A turbine generating unit, additional gas-producing apparatus will be installed, which will double the generating capacity of the electric-lighting system. Extensions to the electric-light and gas-distributing systems will be made.

KANSAS CITY, MO.—The McLaughlin Engineering Co., Kansas City, has been retained to take charge of the engineering work in connection with the construction of the municipal electric light plant and distributing system for which $350,000 has been appropriated. Plans and specifications will be completed within 30 days.

ALVIN, TEX.—The Alvin Water, Light & Ice Co., recently organized, will take over the properties of the Alvin Ice, Light & Refrigerating Co., it is stated. An electric-light and water plant will be built.

PUEBLO, COLO.—H. M. Byllesby & Co., Chicago, Ill., it is reported, have purchased the controlling interest in the Pueblo & Suburban Traction & Lighting Co., Pueblo. The property includes the street railway and lighting system of Pueblo, the power plant and lighting systems in Skaguay and Victor, the electric light plant at La Junta and several other plans owned or controlled by the Pueblo company. The purchase price is about $3,000,000.

SANTA FE, N. MEX.—The application of L. A. Hughes and G. W. Prichard for water rights on the Rio Grande River at Cochiti, N. M., to be used to operate a large hydro-electric power plant has been approved by Charles D. Miller, Territorial Engr. Andrieus A. Jones has been granted water rights for a proposed irrigation system in Guadalupe County.

WINCHESTER, IDAHO.—The Board of Directors of the Winchester schools has decided to install a heating plant at the new high school.

MOUNTAIN HOME, IDAHO.—The Council has granted L. L. Nunn && Co. the right to build power lines in the city.

RENO, NEV.—A group of California capitalists to be known as the Nevada Power & Transportation Co., contemplates the construction of a power plant on the Truckee River, about seven miles east of Reno. About 4,000 HP. will be developed.

WALLA WALLA, WASH.—A 50-year franchise has been granted to the Pacific Power & Light Co. for the transmission of power from this city to the boundary line of Columbia County, by way of Dixie, Waitsburg and Prescott. Construction will begin at once, it is stated.

CONCONULLY, WASH.—A franchise to construct and operate an electric-light plant and water-works system in Conconully has been granted to J. C. Morton. The electric plant will at first be operated by steam, but later water power will be used.

LACROSSE, WASH.—Harry C. Wilson, the lessee of the local water-works, is planning to install an electric-light plant.

✚NEWPORT, ORE.—A contract for the survey of a hydroelectric power site and canal at the Siletz Agency has been awarded by the General Land Office, Washington, D. C., to MORRIS WYGANT. The plant is estimated to cost $250,000.

HOOD RIVER, ORE.—The Hydro-Electric Co. has been incorporated for the purpose of developing two dam sites, one on the Evans property, 1½ miles from the city, and the other on Dr. Watt's property, near Tucker's Bridge on the county road. The incorporators are Dr. J. A. Watt, Hood River, and H. J. Jackson, Portland.

DUNSMUIR, CAL.—The Dunsmuir Water, Power & Light Co. are planning extensive additions and improvements to cost about $75,000.

LOS ANGELES, CAL.—All bids were rejected for furnishing an electric generator set to be installed at the new Hall of Records. New bids will be advertised.

The Central Counties Gas Co., H. W. Hellman Bldg., has been incorporated with a capital stock of $1,000,000 for the purpose of consolidating the gas interests of the San Joaquin Valley.

✚The Los Angeles Gas & Electric Corporation has awarded contracts as follows for improvements at their plant at Center and Aliso Sts. T. C. TRENT ENGINEERING CO., Union Trust Bldg., all labor and material for the construction of a carbon separating plant, consisting of settling tanks, equalizing tank and filtering apparatus, at $20,500; the NATIONAL BRIQUETTING & CLAYWORKING MACHINERY CO., 2449 Enterprise St., for repairing compound Corliss gas compressor, at $3,000; the BAKER IRON WORKS, 932 Buena Vista St., for the construction of an air-lifting devise for stack valves, at $1,025.

SAN FRANCISCO, CAL.—Arrangements have been completed for the sale of $1,000,000 in bonds of the Sierra & San Francisco Power Co. to provide funds to complete its electric generating plant on the Stanislaus River, together with its distributing system. The United Railroads, San Francisco, will be supplied by this plant, it is stated.

SUSANVILLE, CAL.—The Town Trustees have granted the Lassen Electric Co. a franchise to erect electric transmission lines for the distribution of electricity within the corporate limits of the town. Noted May 25.

✚SAN DIEGO, CAL.—A contract has been awarded for the electric work in the Marston Bldg., on Fifth St., to the SOUTHERN ELTCTRICAL CO., Third and E Sts., San Diego.

JACKSON, CAL.—The Amador Electric Light & Power Co. has purchased a site for a sub-station at Main St., near North Fork Bridge. C. R. Downs, Sutter Creek, is Mgr.

BRANTFORD, ONT.—Bids will be received by the Brantford & Port Dover Ry. Co., until Aug. 1, for the construction and equipment for its proposed 30-mile railway. The 6,600-volt, single-phase line will be carried on steel towers, and five large bridges will be built.

MOOSE JAW, SASK.—Bids will be received until July 24, by W. F. Heal, City Clk., for the following electrical apparatus: Contract A, 50 6.6 ampere, direct current, series, metallic flame arc lamps complete, with globes, etc.; 50 absolute cut-out hangers; 2 current regulator, 50 lamp circuit; 1 Mercury rectifier, 50 lamp circuit; 1 control panel with switches, 50 lamp circuit. Contract B, 50 ornamental arc lamp standards. Plans and specifications may be obtained from J. D. Peters, Elec. Supt.

BRIDGES.

✚MARS HILL, ME.—We are officially advised that the contract for constructing a reinforced-concrete bridge, with a 66-ft. span and 24-ft. roadway, was awarded on June 17, to CHAS. N. TAYLOR, Wellesley, Mass. Walter M. Denman, Springfield, Mass., is Consult. Engr. Noted on June 8.

MADBURY, N. H.—Bids will be received by the Selectmen of Madbury, until July 1, for furnishing a steel bridge. For specifications address Selectmen, Madbury.

*FITCHBURG, MASS.—Bids will be received by the Board of Street Commissioners until 7.30 p. m., July 17, for constructing the Fifth St. viaduct; earth excavation, in foundations, 2,500 cu. yds.; rock excavation, in foundations, 85 cu. yds.; cinder filling under sidewalks, 190 cu. y ds.; gravel fill on roadway of bridge, 470 cu. yds.; steel bars for concrete reinforcement, 87.5 tons; structural steel, erectel in place, 292.5 tons; concrete, 4,232 cu. yds.; hand rails, erected, complete, 1,378 lin. ft. Plans may be seen and specifications and forms of proposals obtained at the office of Timothy J. Sheehan, City Eng., Fitchburg, and at the office of James H. Fuertes, Consult. Eng., 140 Nassau St., New York City. For further particulars, see advertisement in this issue.

*MASSENA, N. Y.—Bids will be received by the Town Board until noon, July 15, for constructing a bridge. Plans and specifications are on file with B. S. O'Neill, Massena.

HACKENSACK, N. J.—Bids will be received by M. J. Brestel, A. D. Kerr and Frank Oldis, a committee of the Board of Chosen Freeholders of Bergen County, at the office of the Clerk of the board, in the court house, Hackensack, until 2.15, June 29, for the following work; Extending a stone arch bridge at Demarest; constructing concrete bridges as follows: On Randolph Ave., Dumont; on Fairview Ave., Dumont; on Orchard St., Allendale.

Bids will be received by the committee until noon, July 3, for constructing a concrete culvert on Second St., Hackensack, and a concrete bridge over the Susquehanna R. R. tracks at Summit Ave., Hackensack.

McELHATTAN, PA.—Bids will be received by the County Commissioners until 1 p. m., July 17, for constructing a steel highway bridge. The superstructure will consist of ten duplicate plate-girder spans each 97.5 ft. long with a 16-ft. roadway, and the substructure, of nine reinforced-concrete piers and two reinforced-concrete abutments. The estimated cost is $50,000. Plans and specifications are on file with the Farris Engineering Co., Civil and Bridge Engrs., Jenkins Arcade Bldg., Pittsburg.

MERCER, PA.—Bids will be received by the Commissioners of Mercer County until 11 a. m., July 3, for constructing a steel bridge in Jamestown Borough, a steel bridge in Mill brook, Worth Township, and a steel bridge in Hempfield Township. J. A. McGrath is Clk.

WEST CHESTER, PA.—Bids will be received by the County Commissioners until noon, July 10, for erecting a stone arch bridge over Chester Creek. F. G. Andrews is Comr.

RICHMOND, VA.—Bids will be received by P. St. J. Wilson until noon, July 3, for erecting a concrete bridge with three spans, each 87.4 ft. long, over Staunton River, one-half mile from Hardy Station, according to plans on file with the Childrey, Sunday Co., Richmond.

NEWBERRY, S. C.—Bids will be received by the Commissioners of Newberry County, L. I. Feagle, Chn., until 4 p. m., July 1, for the construction of a steel or iron bridge over Enoree River at Brazzleman's Ferry. H. C. Holloway is Clk.

✚COLUMBUS, GA.—The Central of Georgia Ry. Co. has awarded the contract for the construction of a concrete culvert over its tracks at Sixth Ave. and Cemetery St. to GARDINER & PEASE, Columbus, at $10,000.

CLARKSDALE, MISS.—Bids received by M. M. Spiars, Co... noon, July 3, for repairing a... draws in all bridges in Is... now over Steel's Bayou.

*CINCINNATI, OHIO.—Bids received at the office of the Di... Service, City Hall, Cincinna... July 19, for the construction... structure and miscellaneous... Gilbert Ave. viaduct. Plans and blank proposals can be o... office of the Chief Engineer ... ment of Public Service. John... Clk.

BEDFORD, IND.—Bids will be received by the Board of Commissioners of County about July 1 for the ... a reinforced concrete bridge o... in Marion Township. E. Edw... Audr. and William James, Mu... Engr.

MICHIGAN CITY, IND.—The Commissioners have decided that a ... the Kankakee River, bridging ... nel, south of the new Wanbau... necessary. This bridge will co... Township with Starke County ... a 125-ft. structure, to cost about ...

MISHAWAKA, IND.—We are ad... vised that plans are being prep... S. Moore, South Bend, Ind., for ... ing a bridge to cost $65,000 ... Joe River. John W. Harban is ...

NEW CASTLE, IND.—The Com... sioners have accepted plans and ... for five concrete bridges to be ... Henry County during the summer ... cost of the structures will be about ...

RICHMOND, IND.—Bids will be received by the County Commissioners ... m., July 8, for constructing the following bridges: A 24-ft. concrete bridge ... Township north of Williamsburg; ... concrete bridge on the Cart Road ... Richmond at the Henley farm; ... floor on the Canal bridge at Hagerstown, and a concrete wall and earth fill at the approach of the Middleboro bridge.

STOCKTON, ILL.—Bids will be received at the bridge site of the Koepp bridge, ten miles southwest of Stockton, in Pleasant Valley Township, Jo Daviess County, until 3 p. m., July 6, for the construction of new abutments and placing of old steel superstructure on same. M. A. Goodmiller is Town Clk.

✚IOWA FALLS, IOWA.—We are officially advised that the contract for constructing a bridge was awarded on June 22, to the IOWA CONSTRUCTION CO., Harlan, Iowa, at $8,450.

ALMA, KAN.—Bids will be received until noon, July 7, at the Court House of Alma, for seven bridges to be built in Wabaunsee County, as follows: Fairchild Bridge, reinforced concrete, 25-ft. span, 16-ft. roadway, height of abutments, 15.5 ft.; estimated amount of material in substructure, 88 cu. yds. plain concrete; in superstructure, 27.5 cu. yds. concrete and 4,300 lbs. steel reinforcements. Gross Bridge, reinforced concrete top, stone abutment; 29-ft. span; 16-ft. roadway; height of abutment, 12 ft.; estimated amount of material in substructure, 142 cu. yds. stone masonry; superstructure, 34 cu. yds. concrete and 6,336 lbs. steel reinforcements. Todd Bridge, one stone abutment 35 ft. high; total amount of stone masonry, 432 cu. yds.; excavation will be in clay; foundation to be carried 9 ft. 4 ins. below water. Moggie Bridge, reinforced concrete, 20-ft. span; 16-ft. roadway; height of abutments, 6 ft. 4 ins.; estimated amount of material in substructure, 19.6 cu. yds. plain concrete; superstructure, 24.6 cu. yds. concrete and 3,800 lbs. steel reinforcement. McCrumb Bridge, stone wing wall, 12 ft. long, 23 ft. high; estimated amount of stone masonry, 57.7 cu. yds. Tom Wilson Bridge, two stone abutments 10.5 ft. high; estimated amount of stone masonry, 60.4 cu. yds. Fink Bridge, stone arch, 16-ft. span, 16-ft. roadway; estimated amount of stone masonry, 133.5 cu. yds. C. C. Stotler, Alma, is Clk.

ELDORADO, KAN.—Bids will be received until noon, July 8,, at the Court House in Eldorado, for a bridge to be built between Butler and Harvey Counties. The structure will have two reinforced-concrete flat-top spans 35 ft. each, 76 ft. over all, with a 16-ft. roadway; height of pier and abutments, 20 ft.; estimated amount of material in substructure 241.4 cu. yds. plain concrete; in superstructure, 88 cu. yds. concrete and 14,962 lbs. steel reinforcement; excavation will be in clay and gravel. M. L. Arnold is County Clk.

✚KANSAS CITY, MO.—We are officially advised that the Kansas City Southern Ry. Co. has awarded contract to the ARKANSAS BRIDGE CO., Fort Smith, Ark., for supplying the steel and erecting 21 steel bridges to replace lighter structures now in use on its main line between Kansas City and Port Arthur, Tex.

EL PASO, TEX.—James Trainor, Bridge Engr. for the Southern Pacific R. R. Co., has prepared plans for the construction and repair of the bridges and trestles along the Mexican lines of this railroad.

SANTA FE, N. MEX.—Bids will be received by the Board of Commissioners of Santa Fe County until noon, July 1, for the construction of three bridges. George W. Armijo is Clk.

LOS ANGELES, CAL.—Press reports state that permission has been granted by the War Department to the Newport Land Co. to construct a bridge in Newport Bay across the channel separating Balboa Island from the mainland. The structure will be 1,850 ft. long, constructed largely of concrete.

REDDING, CAL.—Bids will be received by the Clerk of the Board of Supervisors until 2 p. m., July 10, for the construction of a steel and concrete wagon bridge across Fall River at Fall River Mills. Plans and specifications may be examined at the office of S. M. Witherow, Clk.

VICTORIA, B. C.—Bids will be received until July 10 by the Minister of Public Works, Victoria, for furnishing the cables and accessories in connection with a suspension bridge over the Fraser River. Drawings and specifications may be had on application to J. E. Griffith, Pub. Wks. Engr., Victoria.

BUILDINGS.

*(*Indicates that this work is advertised in Engineering News.)*

✦BROCKTON, MASS.—The contract has been awarded to H. C. BRIGGS for a warehouse and two stores for Huggons & Co. To consist of brick, four stories high, to cost $[illegible]. Geo. L. Falk is Arch.

BOSTON, MASS.—The bids received June 22 for the Aquarium to be built at City Point were all considered too high, the lowest being $120,000 by the Carroll Construction Co. The lowest bid for heating and ventilating was $16,000 by Lasker & McMorrow. It is not definitely settled whether new bids will be asked for or a larger appropriation made. Wm. D. Austin is the Arch.

✦HOLYOKE, MASS.—The contract for the block to be built for Mrs. Ellen Collins has been awarded to JOSEPH LA LIBERTE, to be 3-story, brick, 55 × 57 ft. G. P. B. Aldeman & Bro. are the Archs.

✦SPRINGFIELD, MASS.—The contract for the brick block for Mrs. Sarah Lazarus on Congress St. has been awarded to GEORGE W. CURTIS, to be 4-story, 29 × 81 ft. Bruno Wozny is the Arch.

✦The contracts for the block at the corner of North and Patton Sts. for Isaac Littman have been awarded to PAUL S. CURTIS for masonry, M. ALPERT for carpentry and M. COHEN for plumbing. To be 5-story, and of brick. B. E. Geckler is the Arch.

✦PROVIDENCE, R. I.—The contract for the 7-story office building for the E. A. Smith Real Estate Co. has been awarded to HARTWELL & KINGSTON. To be of brick and steel, 41 × 180 ft. Martin & Hall are Archs.

STAMFORD, CONN.—Bids will be received by the Board of Trustees, Stamford Hospital, until July 5 for constructing a group of hospital buildings to cost about $250,000. Edward L. Schofield is Pres.

*FORT STRONG, MASS.—Bids will be received until July 14 by Capt. A. M. Miller, Constr. Q. M., U. S. A., 263 Summer St., Boston, Mass., for the construction, plumbing, heating, electric wiring and fixtures of an addition to post hospital at Fort Strong, Boston Harbor, Boston, Mass.

BRIDGEPORT, CONN.—Skinner & Walker have completed plans for a brick store and apartment block, 64 × 67 ft., to be erected at Main and Whiting Sts., for the A. Wintter Estate.

✦The Torrington Building Co., of Torrington, Conn., general contractors for the new business block of Kline Bros. on Main St., have awarded contracts for the steel work to the BRIDGEPORT FOUNDRY & MACHINE CO., and the electrical work to W. W. GALE & CO. Leonard Asheim drew the plans, which are for a building of brick and steel, 24 × 112 ft., and four stories high. Noted May 25.

✦HARTFORD, CONN.—T. R. FOX & SON, 36 Pearl St., Hartford, have been awarded the general contract for the stores and apartment block to be erected at 148 Front St. for Thomas Lawler. Sub-contracts have been let as follows: F. D. KENT, carpenter work; HANLON & MURPHY, plumbing; JAMES T. MURRAY, heating; DORFMAN IRON WORKS, iron work; C. H. PIETSCH & SON, metal ceilings; COLLINS & HAYES, tiling. The plans are by Frank W. Whiton and provide for a 4-story brick building, 33 × 84 ft. Noted May 11.

NEW HAVEN, CONN.—Bids for the erection of the proposed school house on Clinton Ave. will be received by the Board of Education until June 30. The building will be of brick, two stories high, with limestone trim, and will contain twelve class rooms and an assembly hall. Plans and specifications may be obtained of Brown & Von Beren, 856 Chapel St., New Haven.

STAMFORD, CONN.—George B. Post & Sons, 341 Fifth Ave., New York City, have completed plans for the Stamford Hospital plant, which is to be built on Hubbard's Hill, and bids for the work will be received until 10, a. m., July 5. The buildings to be erected include an administration building, four stories high, which will be arranged for the general offices, reception rooms, private rooms for patients, operating rooms, etc.; two ward buildings each two stories high, a kitchen building, and a laundry building, each one story high; a contagious ward building, two stories high, and a power and heating plant, two stories high. All the buildings will be of brick with tile roofs, and the entire plant will cost about $300,000. The officers of the hospital association are: Pres. Edwin L. Scofield; Sec., Frederick C. Taylor; Treas., Walter D. Daskam.

✦BABYLON, L. I., N. Y.—The general contract has been awarded to JOHN F. COCKERILL, INC., 147 Columbus Ave., for the construction of the proposed edifice for the congregation of St. Joseph's Roman Catholic Church. Plans were prepared by Reiley & Steinbach, 481 Fifth Ave. The cost is $100,000.

*ITHACA, N. Y.—Bids will be received by E. L. Williams, Treas. Cornell University, Ithaca, until noon, July 5, for the entire work comprised in three fireproof buildings for the New York State College of Agriculture at Ithaca. Plans and specifications may be obtained from Green & Wicks, Archs., 110 Franklin St., Buffalo, N. Y.

✦PORT HENRY, N. Y.—The contract has been awarded to WILLIAM S. HAMILL CO., M. S. Gayer, Treas., for the construction of a $45,000 office building and a $10,000 barn for George C. Foote, at Port Henry. Henry C. Pelton, 8 West 38th St., New York City, is Arch.

✦BUFFALO, N. Y.—We are officially informed that the TURNER CONSTRUCTION CO., 11 Broadway, New York City, has been awarded the general contract for the construction, reinforced concrete throughout, of a 5-story and basement building for George Laub's Sons, 120 × 80 ft. in plan, to be erected in Buffalo, New York. Plans were prepared by the owners, work to be undertaken at once.

WAVERLY, N. Y.—The plans of Architect William T. Towner, 320 Fifth Ave., New York City, have been accepted by the High School Board for the construction of the proposed high school. The probable cost is $60,000.

YONKERS, N. Y.—The Common Council will be asked by the Tuberculosis Commission (Thomas Ewing, Jr., Pres.), to appropriate $50,000 for erecting a tuberculosis hospital. Plans now being prepared for submission to Bd. of Estimate.

BUFFALO, N. Y.—Osgood Holland, 417 Mutual Life Bldg., has completed plans and is receiving bids for a 2½ story and basement residence, 70 × 43 ft., brick and stucco, to be erected on Windsor Ave., near Delaware Park, and garage, for Geo. W. Olmstead, Niagara Milling Co. Estimated cost, $30,000.

BUFFALO, N. Y.—W. S. Brickel, 595 Ellicott Sq. Bldg., has completed plans for a 4-story and basement apartment building, 103 × 90 ft., to be erected at West Ferry St. and Elwood Ave., by Washington B. French, 23 Bidwell Parkway. Brick and steel with stone and terra cotta trimmings. Estimated cost, $75,000.

ROCHESTER, N. Y.—Crandall & Strobell are preparing plans for a 7-story and basement addition, 62 × 227 ft., and 42 × 100 ft., to be made to the department store of E. W. Edwards & Son, at St. Paul and Division Sts. Brick and concrete. Estimated cost, $200,000.

✦NEW YORK, N. Y.—The TURNER CONSTRUCTION CO., 11 Broadway, New York City, has been awarded the general contract by Gustav Schock for an 8-story and basement reinforced-concrete loft building, 73 × 100 ft. in plan to be erected at 518 to 522 West 57th St., New York City. J. Broome, 123 Liberty St., is Arch. Work to go ahead at once.

✦NEW YORK, N. Y.—James Knox Taylor, Supervy. Arch., Treasury Dept., Washington, D. C., has awarded contract for the construction of the New York Barge Office to the NORTH EASTERN CONSTRUCTION CO., Brunswick Bldg., New York, at $416,450.

NEW YORK, N. Y.—A building will be erected by the American Society for the Prevention of Cruelty to Animals, 26th St. and Madison Ave., at Ave. A and 24th St. Plans have not yet been prepared.

Plans are being prepared by Henry Nordheim, 1087 Tremont Ave., for the construction of a 15-story tenement building at 178th St. and Maples Ave., in the Bronx. The Joseph Diamond Construction Co., 1139 Wyatt Ave., is the owner. The cost is about $150,000.

Plans are being prepared by Henry Nordheim, 1087 Tremont Ave., for the construction of a 5-story tenement house at Bathgate Ave., north of Wendover Ave., in the Bronx. The Joseph Diamond Construction Co., 1139 Wyatt St., is the owner. The estimated cost is $50,000.

Arnold W. Brunner, 320 Fifth Ave. and Buchman & Fox, 11 East 59th St., associate architects, are preparing plans for the construction of a 4-story invalids' home on Gun Hill Rd., from Woodlawn Rd. to Rochambeau Ave., and south to 210th St. The Montefiore Home for Chronic Invalids, 138th St. and Broadway, are owners.

Frank J. Helmle, 190 Montague St., Brooklyn, is architect for the proposed enlarging of the Bossert Hotel, Montague and Hicks Sts. The addition will be twelve stories and cost about $1,500,000.

The Hoe Realty Co., 92 Liberty St., will construct four 5-story tenement buildings at Hoe Ave. and Home St. George A. Boehm, 7 West 42d St., is the Arch.

A reinforced-concrete garage will be erected by the Stevenson Construction Co., 270 Jackson Ave., Long Island City, at 245-249 West 55th St. The cost is about $175,000. Plans were prepared by J. M. Baker, 21 Jackson Ave., Long Island City.

Plans have been completed by George & Edward Blum, 505 Fifth Ave., for the construction of a 12-story apartment house. The building will be erected at Park Ave. and 76th St. The owner is the 76th St. and Park Ave. Co., 165 Broadway. The cost is $300,000.

✦The general contract has been awarded to ODDIE & STAFFORD, 30 Church St., for the construction of a 12-story apartment hotel at Fifth Ave. and 56th St. Klein & Jackson, 149 Broadway, are the owners. The cost is about $450,000. Rouse & Goldstone, 38 West 32d St., are the Archs.

Two 5-story tenement buildings will be erected by the Erber Construction Co., at Webster Ave. and 179th St. Ginsberg & Resnyk, 830 Westchester Ave., are the Archs.

Plans are being prepared by Rouse & Goldstone, 38 West 32d St., for the construction of a 9-story apartment house at 316-318 West 87th St. Samuel Brickner, 156 West 85th St., is the owner. The cost is about $200,000.

Plans are being prepared by George F. Pelham, 507 Fifth Ave., for the construction of a 6-story tenement for the J. H. Davis Building Co., 312 West 100th St., at 120th St., west of Morningside Ave. The estimated cost is $175,000.

Plans are being prepared by Kirby & Petit, 103 Park Ave., for the construction of a 7-story building. The Locomobile Co. of America, 76th St. and Broadway, is owner.

Plans have been filed for building a 12-story loft and store building on the southeast corner of Fourth Ave. and 25th St. for the Armory Holding Co., at a cost of $750,000. It will have a frontage of 90 ft. and a depth of 138 ft. by irregular to 26th St. It will have a facade of brick, limestone and terra cotta. William H. Whittaker is the Arch.

Plans have been filed for the construction of a 5-story fireproof school at 165 and 167 Henry St. It will have a frontage of 43.6 ft. and a depth of 65 ft., with a facade of brick and with granite, limestone and terra cotta trimmings. The Rabbi Jacob Joseph School is said to be the owner. The cost is $[illegible].

Plans have been filed by William H. Gompert, 2302 Broadway, for the construction of a 16-story fireproof office and loft building on the south side of 32d St., west of Sixth Ave., extending through the block to 31st St., for the Cuyler Realty Co. It will have a frontage of 70 ft. and a depth of 197.6 ft., with a facade of brick, limestone and terra cotta. The cost is estimated at $600,000.

Preliminary plans have been filed for an office building on Madison Ave., to be erected by A. Fillmore Hyde on Madison Ave. and 25th St., having a frontage of 74 ft. and a depth of 175 ft., with a facade of white marble for the first three stories with terra cotta above. The building will be twenty stories in height. The cost is $1,000,000. C. A. Valentine, 346 Fourth Ave., is the Arch.

WHIPPANY, N. J.—Bids will be received until July 19 for the construction of a school at Whippany. Plans and specifications may be obtained from the architect, Charles Jones, at the office, J. C. Layer, Morris Plains, N. J.

LONG BRANCH, N. J.—Bids will be received by the Board of Education until July 6 for constructing a school. C. Asa Francis is Secy.

GETTYSBURG, PA.—Bids were received as follows on June 27, by James Knox Taylor, Supervy. Arch., Treasury Dept., Washington, D. C., for the construction of a U. S. post-office at Gettysburg, Pa.: John G. Unkefer & Co., Minerva, Ohio, (a) $98,666; Westches ter Engineering Co., New York, (a) $102,800, (b) $103,800; Merrick Fire Proofing Co., New York, (a) $105,000, (b) $108,000; Newport Contracting & Engineering Co., Newport News, Va., (a) $107,000, (b) $114,000; William H. Fissell & Co., New York, (a) $105,000, (b) $115,000; James G. Doak & Co., Philadelphia, (a) $99,482; Charles McCaul Co., Philadelphia, (a) $102,679, (b) $108,679; Ambrose B. Stannard, New York, (a) $97,000, (b) $99,500.

ERIE, PA.—Essenwein & Johnson, 781 Ellicott Sq., Buffalo, N. Y., have plans in progress for a 9-story and basement hotel, 80 × 195 ft., to be built at Tenth and Peach Sts. by the Erie Hotel Co. Albert H. Jarecki, Pres. Estimated cost, $600,000.

NEWTOWN, PA.—Henry L. Reinhold, Jr., Tenth and Sansom Sts., Philadelphia, will prepare plans for the proposed Newtown Public Library, it is reported.

PHILADELPHIA, PA.—E. Allen Wilson is preparing plans for a $50,000 apartment house to be known as the "Trevelyn," at the southeast corner of 50th and Chancellor Sts., for Calvin W. Rogers. It will measure 108-ft. × 70-ft., and will contain eighteen 7-room flats.

✦WILMINGTON, DEL.—James Knox Taylor, Supervy. Arch., Treasury Dept., Washington, D. C., has awarded contract for the construction of an extension to the U. S. post-office at Wilmington, Del., at $82,685, to AMBROSE B. STANNARD, St. James Bldg., New York City.

BALTIMORE, MD.—Preliminary plans are being drawn by John Freund, Jr., 210 East Lexington St., for a building for St. Margaret's Episcopal congregation, on the Reisterstown Rd., near Kate Ave. Rev. F. H. Boosey, pastor. The church is to be 1-story and basement, of stone and brick, with slate roof and concrete foundations. When definite plans are decided upon, contractors will be asked to submit bids.

The United Motor Transportation Co. plans the establishment of a central garage, the location of which has not yet been decided; will be incorporated with capital stock of $500,000 to furnish motor truck service for handling merchandise, etc. Organizers are Jas. H. Gaither and John L. Beck.

Chas. E. Cassell & Sons, Archs., Law Bldg., have prepared plans for the proposed store building to be erected at 35 West Lexington St., for A. Eisenberg.

PORT DEPOSIT, MD.—The Pennsylvania R. R., Alex. C. Shand, Ch. Eng., Philadelphia, Pa., will soon begin construction on proposed passenger station.

WASHINGTON, D. C.—Bids were received as follows on June 20 by the Secretary of the Interior, Washington, D. C., for the construction of a nurses' home for the Freedman's Hospital, Washington, D. C.: Martin & Brown, $43,990; Melton Construction Co., $41,856; W. E. Mooney, $45,475; Burgess & Parsons, $45,469; Merrick Fire Proofing Co., New York, N. Y., $51,157; Page Construction Co., $44,455; Davis Construction Co., $45,813; Boyle-Robertson Construction Co., $43,781; Arthur L. Smith & Co., $44,140; W. H. McCray, $46,707; Gormley-Poynton Co., $45,345; Arthur Cowsill, $44,193; Skinker & Garrett, $44,817; Hoge & Luebkert Co., Inc., $43,447. All of Washington except Merrick Fire Proofing Co.

✦WASHINGTON, D. C.—The Union Savings Bank will erect a 7-story bank building adjoining the Bond Bldg., with marble and Bedford stone front after plans by Milburn, Heister & Co., Washington, D. C. Contract has been awarded to F. T. NESBIT & CO., New York, work to be completed Jan 1.

✦S. W. Woodward will erect three store buildings on G St., press brick, terra cotta fronts, after plans by Milburn, Heister & Co., Washington, D. C. Contract has been awarded to SAMUEL EDMONSTON.

CHARLOTTESVILLE, VA.—The Jefferson National Bank is having plans and specifications prepared by Milburn, Heister & Co., Archs., Washington, D. C., for their new bank building. Plans will be completed by July 1.

LEESBURG, VA.—Page Laughlin will erect a country residence after plans prepared by Milburn, Heister & Co., Washington, D. C. Contract will be awarded as soon as plans are finished.

LYNCHBURG, VA.—The Chamber of Commerce, acting for owners, O. B. Barker, Ch. of Committee, will open bids in about 30 days for the construction of a hotel to be five stories, with carrying capacity of two additional stories, 140 × 132 ft. Cost, about $250,000.

PORTSMOUTH, VA.—The city will expend about $40,000 for erection of clerks' office. Plans and specifications under consideration.

RICHMOND, VA.—R. Ferrandini will erect a store building to be four stories high and basement. Cost about $40,000.

✦ROANOKE, VA.—Lakeland Lodge, No. 180, Ancient Free and Accepted Masons, awarded contract at $57,500 to HERRINGTON & NORMOYLE, Roanoke, Va., to erect Masonic temple, to be four stories and of fireproof construction. Plans by Huggins & Bates, Roanoke.

RAEFORD, N. C.—The Bank of Raeford has adopted plans and specifications submitted by Milburn, Heister & Co., Archs., Washington, D. C. Bank building will be 50 × 80 ft. and three stories high.

RALEIGH, N. C.—The plans by R. Thornton Marye, Atlanta, Ga., have been selected by the State Building Committee for the proposed 5-story administration building. The cost is $250,000.

✦RAEFORD, N. C.—The County Commissioners have awarded the contract to the CENTRAL CAROLINA CONSTRUCTION CO., Greensboro, N. C., for the erection of new court house and jail, steel and iron work to the CHAMPION IRON CO., Kenton, Ohio. Plans for both buildings prepared by Milburn, Heister & Co.

✦DUBLIN, GA.—James Knox Taylor, Supervy. Arch., Treasury Dept., Washington, D. C., has awarded contract for the construction of a post-office at Dublin, Ga., to ALGERNON BLAIR, Montgomery, Ala., at $48,950.

MANSFIELD, LA.—Bids will be received by the County Commissioners until July 5 for erecting a 2-story semi-fireproof courthouse.

CANTON, OHIO.—F. L. Allen, Secy., will receive bids until July 18 for the construction of the Joint Tuberculosis Hospital. Probable cost is $100,000.

NEWARK, OHIO.—The Board of Education will receive bids until July 12 for constructing a school to be erected in Subdistrict Four. A. E. Hoskinson is Clk. of Bd.

PORTSMOUTH, OHIO.—Richards, McCarthy & Bulford, Ruggery Bldg., have been engaged to prepare plans for a brick and stone building to be erected. Cost, about $50,000.

✦INDIANAPOLIS, IND.—The contract has been awarded to the BEDFORD STONE & CONSTRUCTION CO. for the construction of a dwelling for C. W. Fairbanks. The probable cost is $80,000.

LAKE, IND.—Bids will be received until July 7 by S. C. Ferguson, School Trustee, for the construction of a 2-story school. Plans were prepared by Brubaker, Stern & Boyle, 401 Furniture Exchange Bldg., Evansville.

✦ELKHART, IND.—The Bucklen Theater Co. has awarded a contract for the complete remodeling and enlarging of the Bucklen Theater to CHARLES EHERSON, at $50,000.

GARY, IND.—The Northern State Bank has purchased a site on Broadway on which to erect a large bank and office building.

INDIANAPOLIS, IND.—The Independent Order of Redmen have plans ready for bidders for the erection of an 11-story hotel and lodge hall building, corner Capital Ave. and Market St. M. C. Mahew is Sec.

✦F. H. Wheeler has awarded a contract to LYN B. MILLIGAN, Indianapolis, for the erection of a residence at Riverside Heights at $80,000. Price & McLanahan, Philadelphia, Pa., are Archs.

TOLESTON, IND.—The Toleston Library Association is preparing to build a Carnegie library building, corner 13th Ave. and Center St.

VALPARAISO, IND.—The Trustees of Pine Township, Porter County, are preparing to ask for bids for the construction of a consolidated school building at North Pine, on a site near the old building, recently destroyed by fire.

VERSAILLES, IND.—The First National Bank has ordered plans for the erection of a bank and business building. Bids will be received as soon as plans are completed.

WHITING, IND.—Plans are ready for bidders for the construction of a 3-story brick business block and apartment building on Washington St. J. J. Verplank is Arch.

✦ANN ARBOR, MICH.—Smith, Hinchman & Grylls, Washington Arcade Bldg., Detroit, have awarded the general contract for new club house for the Athletic Association of the University of Michigan at Ann Arbor to C. A. SAUER & CO., of Ann Arbor, Mich.

ISHPEMING, MICH.—There will be a special election on July 3 to approve of a bond issue of $40,000 for a fire hall and apparatus.

CHICAGO, ILL.—Plans have been prepared by H. B. Wheelock for the construction of an addition to the Methodist Old People's Home. The cost will be about $90,000.

DANA, ILL.—E. T. McCowan, Trustee Helt Township, Vermillion County, is receiving bids until July 7 for the construction of two brick school houses.

MILWAUKEE, WIS.—Herman J. Esser, Arch., has been commissioned to prepare plans for the addition to the German-English Academy, the gift of Mrs. Fred Vogel, Jr. It will be three stories high, of solid brick construction, 70 × 90 ft., and front on Milwaukee St. Cost, $50,000, fully equipped.

MILWAUKEE, WIS.—Allan D. Conover, Madison, Wis., has prepared plans and specifications for a $250,000 addition to the Milwaukee County Asylum for Chronic Insane at Wauwatosa, on the modified cottage plan. Work will probably begin in the fall. Martin Piehn is County Clk.

SHAWANO, WIS.—Van Ryn & DeGelleke, Archs., Milwaukee, Wis., are preparing plans for the proposed new $100,000 insane asylum and poorhouse for Shawano County. The main building will be of solid brick construction, two stories high, 195 × 250 ft., with press brick front and embellishments; boiler house and power plant, including laundry and warehouse, 113 × 54 ft., one story high, of concrete and brick. Bids will be taken in about a month's time.

MOVILLE, IOWA.—The Board of Education will receive bids until July 20 for constructing a school. Plans were prepared by G. W. Burkhead, Sioux City, Iowa.

PAYNESVILLE, MINN.—Bids will be received June 29 for a brick high school building. Kirby F. Snyder & Co., 92 South Seventh St., Minneapolis, are Archs.

DULUTH, MINN.—Cram, Goodhue & Ferguson, 170 Fifth Ave., New York City, have been retained to prepare plans for the erection of the proposed club house for the Kitchi Gammi Club. The proposed cost is $200,000.

GARVIN, MINN.—Bids will be received until June 30 by the Board of Education for constructing a school. E. M. Jones is Clk. Bd.

✚GREAT BEND, KAN.—Bids will be received by James Knox Taylor, Superv. Arch., Treasury Dept., Washington, D. C., until Aug. 2 for the construction, complete (including plumbing, gas piping, heating apparatus, electric conduits and wiring and lighting fixtures) of the U. S. post-office at Great Bend, Kan. Drawings and specification may be obtained from the Custodian of site at Great Bend, Kan., or at the discretion of the Superv. Arch.

ELMWOOD, NEB.—Bids will be received until June 30 by the Board of Education for the construction of a high school at Elmwood. D Saxton is Secy. Bd. Educ.

HURON, S. DAK.—Bids will be received by James Knox Taylor, Superv. Arch., Treasury Dept., Washington, D. C., until Aug. 1 for the construction, complete (including plumbing, gas piping, heating apparatus, electric conduits and wiring and interior lighting fixtures), of the U. S. post-office at Huron, South Dak. Drawings and specifications may be had from the Custodian of site at Huron, S. Dak., or at the discretion of the Superv. Arch.

FORSYTH, MONT.—The County Commissioners are considering the erection of a $125,000 court-house.

ST. LOUIS, MO.—Plans have been completed by F. A. Banister, Real Estate Syndicate Trust Bldg., for the construction of an apartment house at Savoy Court and Union Boulevard. The cost is about $75,000.

✚ANDREWS, TEX.—The contract for the erection of the county court-house here has been let by the Commissioners' Court of Andrews County to F. M. Knight & Son, of Andrews.

*SULPHUR SPRINGS, TEX.—Bids will be received by James Knox Taylor, Superv. Arch., Treasury Dept., Washington, D. C., until Aug. 4, for the construction, complete (including plumbing, gas piping, heating apparatus, electric conduits and wiring), of the U. S. post-office at Sulphur Springs, Tex. Drawings and specifications may be obtained from the Custodian of site at Sulphur Springs, Tex., or at the discretion of the Superv. Arch.

✚TERRELL, TEX.—James Knox Taylor, Superv. Arch., Treasury Dept., Washington, D. C., has awarded contract for the construction of a U. S. post-office at Terrell, Tex., to FELL & AINSWORTH, Waco, Tex., at $42,000.

✚WICHITA FALLS, TEX.—James Knox Taylor, Superv. Arch., Treasury Dept., Washington, has awarded contract for the construction of a post office at Wichita Falls, to DIETER & WENZEL CONSTRUCTION CO., Wichita, Kan., at $64,991.

✚VICTORIA, TEX.—James Knox Taylor, Superv. Arch., Treasury Dept., Washington, D. C., has awarded contract for the construction of a post office at Victoria, to OTTO P. KROEGER & CO., San Antonio, Tex., at $84,131.

TEMPLE, TEX.—R. L. Barclay has adopted plans for the erection of a 4-story reinforced-concrete building. Its dimensions will be 110 × 150 ft.

BLACKWELL, OKLA.—The Board of Education will receive bids until June 29 for the construction of a high school. Plans were prepared by Smith & Parr, Oklahoma City.

PUEBLO, COLO.—It is reported that the citizens have voted in favor of issuing $130,000 bonds for the purpose of constructing the Centennial high school.

✚SALT LAKE CITY, UTAH.—The contract has been awarded to P. J. MORAN, Salt Lake City, to construct the city stables at $42,647.

LA GRANDE, ORE.—Bids were received as follows on June 22, by James Knox Taylor, Superv. Arch., Treasury Dept., Washington, D. C., for the construction of a U. S. post office at La Grande: Campbell Building Co., Salt Lake City, Utah, $59,120; Interstate Construction Co., Saginaw, Mich., $68,995; Sound Construction & Engineering Co., Seattle, Wash., $61,658.

PENDLETON, ORE.—Bids will be received until July 10 for the construction of the proposed school to cost about $100,000.

PORTLAND, ORE.—Bids will be received until June 30 for erecting a nurses' home at the Multnomah Hospital grounds. Bids will be received at the offices of Bridges & Weber, 422 Hamilton Bldg., Portland.

✚ANAHEIM, CAL.—The Board of Trustees of the Anaheim Union High School Dist. will award the following contract for the construction of the high school group of buildings: The general contract awarded to UPTON-FRENCH CONSTRUCTION CO., of Pasadena, for the commercial, science, language, domestic science, manual training, and a portion of the administration building at $72,000.

✚LOS ANGELES, CAL.—Parkinson & Bergstrom, Security Bldg., have awarded contracts as follows on the 12-story building, being erected at Seventh and Spring Sts. by the Union Oil Co.: Marble and tile contract awarded to CALIFORNIA MARBLE & TILE CO., Story Bldg., at $45,534.

✚OAKLAND, CAL.—Meyer & Reed, Oakland Bank of Savings Bldg., awarded contract to P. J. WALKER, Monadnock Bldg., San Francisco, for the erection of a 7-story Class A bank and office building at 118 Broadway for the Security Bank & Trust Co. Cost, $225,000.

SACRAMENTO, CAL.—Plans for the construction of state buildings to be erected in various parts of the state at an aggregate cost of $1,000,000, are in course of preparation in the office of the State Engineer at Sacramento, and will soon be ready for figures. One of the largest of these is the proposed Armory building to be erected in Agricultural Park, at Los Angeles. The plans as prepared by State Arch. Diggs, Twelfth and J Sts., Sacramento, provide for a 3-story and basement Class A building of reinforced concrete; it will be fireproof and will have exterior facing of repressed brick and terra cotta, and tile roof. The sum of $250,000 has been appropriated for the construction. Similar in design to this is the Armory building to be erected at 14th and Mission Sts., San Francisco. It will also be constructed of reinforced concrete, structural steel and iron, composition roof, granite and pressed brick facing, interior finish of pine and metal, with a large amount of ornamental iron work, marble and tile decoration. Cost, $350,000. The third of the group of Armory buildings will be constructed in Sacramento at Twelfth and W Sts. It will be three stories in height, full basement, of reinforced-concrete construction, pressed brick and terra cotta exterior. Cost, $60,000. Chief among the smaller state buildings will be the 2-story dormitory for nurses and attendants at the State Asylum at Agnews; it will be of reinforced concrete, structural steel and iron and finished cement exterior. Cost, $60,000.

SACRAMENTO, CAL.—The city voted on June 10 to bond the city for $800,000 to erect six new school buildings, repair present ones and build a $100,000 addition to the high school. Fireproof buildings will be erected.

SAN FRANCISCO, CAL.—Mason & Morrison, Monadnock Bldg., are preparing plans for a 5-story store and loft building to be erected on Sansom St. The construction will be either concrete or brick and will cost $75,000.

SAN FRANCISCO, CAL.—Benjamin G. McDougall, Sheldon Bldg., has plans for a 10-story Class A office building to be erected at Bush and Sansome Sts. by the Standard Oil Co. to be occupied by them. Steel frame and terra cotta. Cost, $150,000.

SAN FRANCISCO, CAL.—Righetti & Headman, Phelan Bldg., are preparing plans for a Class A theater building to be erected at San Luis Obispo by the Elks Lodge. The construction will be of reinforced concrete. Cost, $45,000.

✚SAN FRANCISCO, CAL.—Geroge L. Streshley, Balboa Bldg., awarded contract to M. T. CLARK CO., Phelan Bldg., for the erection of a 6-story concrete hotel at Turk and Mason Sts. for Jacob Schwartz at $59,555.

SAN FRANCISCO, CAL.—Frederick H. Meyer, Humboldt Bank Bldg., has prepared plans for a 4-story Class A store and office building to be erected on Market St. by the Banker Investment Co. The estimated cost is $450,000.

SAN FRANCISCO, CAL.—Andrew Rudgear, care of Bellevue Hotel, has taken out a permit for the erection, by day work, of a 7-story reinforced-concrete hotel on Bush St. Cost, $85,000. E. F. Foulker, Crocker Bldg., is the Arch.

✚SANTA CLARA, CAL.—The Trustees of Santa Clara College awarded the contract through the office of Arch. W. D. Shea, 350 Larkin St., San Francisco, to DAVID ELMS GRAHAM, Williams Bldg., San Francisco, for the construction of a 3-story reinforced-concrete administration building in Santa Clara, at $88,000.

WATER SUPPLY—IRRIGATION.

✚CAMBRIDGE, VT.—The contract has been awarded RICCI CONSTRUCTION CO., of Rutland, Vt., for the construction of a water system here. Estimated cost, $22,000.

BOSTON, MASS.—Bids will be received until July 7 by the Metropolitan Water and Sewerage Board for laying 6,700 ft. of 20-in. water pipe in Hyde Park, 300 cu. yds. rock included. Dexter Brackett is Ch. Engr. Bd.

BOSTON, MASS.—Bids were received as follows on June 23 by the Metropolitan Water and Sewerage Board for laying water pipe in Section 39 of the Distribution System, Contract No. 341: Michael Russo & Son, 240 North St., Boston, $11,641; Andrew M. Cusack, 95 Milk St., Boston, $12,343; William J. Rafferty Co., 33 Champney St., South Boston, $17,992; Bruno & Petitti, 18 Tremont St., Boston, $19,670; John J. Falvey, 15 Rush St., Somerville, $27,315.

*PITTSFIELD, MASS.—Bids will be received until 2 p. m., July 10, by the Board of Public Works for laying water pipe. The principal item of work is laying 10,400 ft. of 24-in. c.-i. pipe. A. B. Farnham is Engr. Bd.

WILLIAMSBURG, MASS.—No contracts were awarded on June 15 by the Hampshire Reservoir Co. for the construction of a rubble masonry dam near here. The necessary permission to construct has not yet been given by the County Commissioners. J. C. Schaefer is Engr., 151 West 91st St., New York.

✚HOUSATONIC, CONN.—The Housatonic Water Co. has awarded the contract to A. J. HASON to furnish and lay about two miles of 8-in. water pipe from Van Deusenville to Housatonic over the North Plain Road. The contract will call for over 300 tons of c.-i. pipe and fittings. E. H. SHAW, of Van Deusenville, will do the trench work.

✚BLAUVELT, N. Y.—Franklin B. Ware, State Arch., Albany, has awarded the contract to FRANK BESCH, of Albany, for water and sewage at the State Rifle Range, Blauvelt, at $13,280.

BUFFALO, N. Y.—The contract has been awarded to CHARLES H. EVERITT, 424 White Bldg., Buffalo, the lowest bidded for the construction of a water-works intake pier at Buffalo Harbor, at $43,490. Francis G. Ward is Comr. Pub. Wks.

*GENEVA, N. Y.—The Board of Public Works on June 8 received bids for the construction of a reservoir in connection with the water system improvements as follows: Lupfer & Remick, Buffalo, two bids, $26,850 and $22,900; Coughlin, Lowman & Bradley, Elmira, $24,632; Simpson Bros. Corporation, Boston, Mass., $28,960; G. W. Thompson, Utica, $30,250; Hennibique Construction Co., New York, $34,900; Gahren, Dodge & Maltby, New York, $38,865.

NEW YORK, N. Y.—Bids will be received by the President of the Board of Trustees of Bellevue Hospital until 3 p. m., July 11, for all labor and material required for constructing and erecting and completing a sprinkler equipment at Bellevue Hospital, situated 26th to 29th Sts., First Ave. to East River, Boro. Manhattan.

*✚NEW YORK, N. Y.—The contract has been awarded by the Board of Water Supply to the T. A. GILLESPIE CO., 50 Church St., New York, for Contract 90, for the construction of the Hudson Siphon at $1,649,020. List of bidders noted on June 1.

NEW YORK, N. Y.—Bids will be received by Henry S. Thompson, Comr. Water Supply, Gas and Electricity, until July 5, for furnishing and delivering c.-i. pipe, special castings and valve box castings and for pipe, valves, pipe fitting, etc.

✚NEWARK, N. J.—Bids were received by the Street and Water Commissioners on June 15 for furnishing coated c.-i. water pipe and special castings. The contract has been awarded to the STANDARD CAST IRON PIPE & FOUNDRY CO., of Bristol, Pa., at $26,693.

✚CLARION, PA.—The Clarion Water Co., of Clarion, Pa., has awarded the contract for the steel settling tank to the HAMMOND IRON WORKS, of Warren, Pa. Chester & Fleming, Union Bank Bldg., Pittsburg, Pa., are Consult Engrs.

FALLS CREEK, PA.—Bids will be received by the Town Council until noon, July 5 for the construction of an earth and concrete water dam, the laying of an 8-in. pipe line, erection of a concrete or brick pump station, and the construction of filter beds and clear water wells. Plans and specifications can be seen and proposal sheet obtained from the Secretary of the Council, or at the office of E. W. Hess and A. L. Bouton, Engrs., DuBois, Pa.

SOMERSET, PA.—The borough, it is reported, has decided to spend an additional $12,000 for water-works improvements. L. E. Chapin is Engr., Pittsburg, Pa.

TRAFFORD, PA.—The citizens, it is reported, are considering the issuing of bonds for the installation of a water-works system.

WASHINGTON, D. C.—Bids were received on June 20 by the Commissioners of the District of Columbia for furnishing 5,000 8-in. water meters, as follows: National Meter Co., New York, $10, Empire meter; Union Water Meter Co., Worcester, Mass., $8.40, brand not stated; Pittsburg Meter Co., East Pittsburg, Pa., $5.90, Keystone brand, or $5.45 for Type W Keystone; Thompson Meter Co., Bridge St., Brooklyn, N. Y., for Lambert meters, any quantity, $7.20 each; for not less than 2,500 meters, $6.90; not less than 5,000, $6.70; not less than 7,500, 6.50; Hersey Mfg. Co., South Boston, Mass., $5.25 for Hersey disc meter, Model F, without couplings, or $6 for Model FF; Buffalo Meter Co., Buffalo, N. Y., $6; American Disc meter; Henry R. Worthington, 115 Broadway, New York, $6.25, Worthington Model D; Neptune Meter Co., 90 West St., New York, $8, Trydent Disc meters.

Bids were received as follows on June 20 by the Commissioners of the District of Columbia for 200 low pressure fire hydrants: F. P. Smith Mfg. Co., East Orange, N. J., $32.90 each; Glamorgan Pipe & Foundry Co., Lynchburg, Va., $31.80.

✚FORT MYER, VA.—The following contracts have been awarded for additions to the pumphouse and other work in connection with the water system here: To R. E. BOISEAU, Washington, D. C., for addition to pumphouse, $2,860; JAMES NOLAN & SONS, Washington, D. C., new filter, new filter pump, resetting old filter pump, etc., $6,375; L. B. JACOBS, Newark, Del., for constructing a new 10-in. water main, $27,446. List of bidders noted on June 8.

✚LEXINGTON, VA.—We are officially advised that contracts have been awarded as follows in connection with the new gravity water supply system: For furnishing c.-i. pipe, to the U. S. CAST IRON PIPE & FOUNDRY CO., Philadelphia, Pa.; for wooden pipe, to A. WYCOFF & SON, of Elmira, N. Y. List of bidders noted on Jun e15.

ROCKYMOUNT, VA.—The city has voted $50,000 of bonds for the construction of a water-works, an electric light plant and a sewer system.

*CLARKSBURG, W. VA.—Bids will be received by the Water Works and Sewerage Board at the office of Scott G. Highland, Secy., until noon, July 24, for and erecting two 200-HP. water ers complete including 80-ft. steam and water connections and purtenances. Plans and specifi be seen and blank forms of p tained at the office of the Se of Hering & Fuller, Engrs., 31 Bldg., Clarksburg, after July 1.

HEIGHTS, W. VA.—The town $6,000 of bonds for the constru water-works system.

NEWBERN, N. C.—The city bids until noon, June 30, for dril more wells. Thomas F. McCarth Water and Light Com.

JESUP, GA.—The citizens on Ju to issue $25,000 of bonds for th tion of a water system.

MACON, GA.—Bids will be rece Clerk of the Council until noon for digging trenches and laying 12-in. pipe; 3,140 ft. of 8-in. and of 6-in. pipe, with hydrants, ga tees, elbows and other special cast will be received for construction terial of entire work, and also for tion alone. Plans, specifications forms of proposal may be obtain plying to the City Engineer. John is Mayor.

ALBANY, GA.—The city has vo 500 of bonds for the extension mains and storm and sanitary sew F. Tift is Mayor.

UNADILLA, GA.—The city has issue bonds for the extension and ment of the water-works system.

LEXINGTON, MISS.—The May Board of Aldermen have ordered an $62,500 of bonds for constructing of water-works and house sewers. P be prepared by W. G. Kirkpatrick Engr., of Jackson. The water-wo include two artesian wells flowin masonry receiving basin, steam or pumps taking water from this basin livering it into a steel tank or stand system of six miles of c.-i. 6 to 10-i The sewers will comprise six miles 12-in. pipe sewers, discharging into creek. H. S. Hooker, Mayor.

McCOMB CITY, MISS.—The City Council is considering issuing bonds for the extension and improvement of the water-work system.

VICKSBURG, MISS.—Bids will be received by the City Clerk until 8 p. m., July 3, for laying a water main in Grove St. from Washington St. to First North St., and in Belmont St., from Washington St. to Cherry St. J. J. Hayes is Mayor.

OAK HARBOR, OHIO.—The citizens on June 20 voted to issue $35,000 of bonds for the installation of a water-works system.

CLEVELAND, OHIO.—Within 30 days, it is reported, preliminary contracts will be let by the Water Department for the construction of the high-pressure station at East Eleventh St. and Lakeside Ave., and for the new West Side tunnel. Robert Hoffman is City Engr.

CLEVELAND, OHIO.—Bids will be received at the office of A. B. Lea, Dir. Pub. Ser., until noon, July 5, for furnishing and delivering pipe and special castings for the Water Department; also for furnishing and delivering a crane framework and track at the Kirtland Pumping Station of the Water Department.

OGLESBY, IND.—A. T. Maltby, Consult. Engr., Great Northern Bldg., Chicago, Ill., has been retained by the city to prepare plans for the construction of a water-works system.

ROCKVILLE, IND.—The Board of Trustees will receive bids until 2 p. m., July 3, at the office of Town Clerk, for the digging and completion of a well. William T. Paxton is Town Clerk.

CLINTON, IND.—Bids will be received by the Clinton Water Works Co. until 9 a. m., July 8, for additions and alterations to the water-works plant.

DETROIT, MICH.—The Water Board has authorized Benjamin F. Guiney, Secy., to ask for bids for 11,000 tons of iron pipe.

FLINT, MICH.—W. S. Clark, Consult. Engr., 1050 The Spitzer, Toledo, Ohio, has completed plans for the installation of a filtration plant for the city. Estimated cost, $400,000. Noted on March 16.

OTTAWA, ILL.—The City Council has decided to ask for bids for the construction of additional water mains in West Main and West Jefferson Sts.

HEYWORTH, ILL.—We are officially advised that the citizens have voted against the installation of the proposed water-works system.

LAKE ZURICH, ILL.—The citizens have voted, it is reported, to construct a system of water-works.

PANA, ILL.—Plans are being completed for the construction of a municipal water system here.

LUTHER, IOWA.—The citizens have voted to issue about $5,000 of bonds for the installation of a water-works system.

PRAIRIEBURG, IOWA.—The city is considering the installation of a water works system.

SHELDON, IOWA.—Bids will probably be received until July 1 by the City Council for extensions to the water mains. W. Small is City Clk. Noted on June 1.

ARTHUR, IOWA.—Bonds for the construction of a water-works system here have been voted by the citizens.

✚INWOOD, IOWA.—The city has engaged the Missouri Valley Engineering Co. of Mitchell, S. Dak., to design and supervise the construction of a complete water-works system. Estimated cost, approximately $[illegible].

DES MOINES, IOWA.—The citizens on June 19 voted in favor of purchasing or constructing a water-works plant.

EVELETH, MINN.—D. P. McIntyre, City Clk., will receive bids until 8 p. m., July 3, for supplying 1,700 ft. of 6-in. iron pipe and other water-works supplies.

FULDA, MINN.—Frank White, Village Clk., will receive bids until 2 p. m., June 30, for drilling a deep well, with a capacity of 1,040 gallons per min.

NEW ULM, MINN.—The City Clerk will receive bids until 5 p. m., July 5, for the construction of a water main from Center St. to the elevator of the New Ulm Roller Mill Co.

RED WING, MINN.—We are officially advised that the city will purchase 8-in. water pipe. A. E. Rhame is City Engr.

WILLMAR, MINN.—No bids were received on June 12 by the city for constructing two purification plants and pumping stations. New bids will be received in about two months. J. A. Bowat is City Engr. Noted on June 1.

CHADRON, NEB.—G. E. Marriott, City Clk., will receive bids until 7 p. m., July 6, for the construction of a concrete dam, earth fill and wood stave conduit line from the dam to the city.

LOUISVILLE, NEB.—The citizens have voted $16,000 of bonds for the installation of a water-works system.

SIOUX FALLS, S. DAK.—Lewis Larson, City Audr., will receive bids until 9 a. m., July 11, for the construction of a reinforced concrete well and motor-house for the municipal water-works system from plans by L. P. Wolff, Consult. Engr., St. Paul, Minn. The well will be 50 ft. in diameter and 35 ft. deep.

IPSWICH, S. DAK.—Bids will be received about July 15 for the construction of a water-works system here. Plans have been prepared by the Dakota Engineering Co., of Mitchell, S. Dak. Estimated cost, about $20,000. Noted on June 22.

JAMESTOWN, N. DAK.—Bids will be received until July 3 by A. R. Thompson, City Audr., for laying water mains in Water Main District No. 1.

ELLENDALE, N. DAK.—John King, City Audr., will receive bids until 8 p. m., July 6, for the construction of 1,806 ft. of 1-in. water main.

✚FORT YELLOWSTONE, WYO.—The contract for the construction of a pipe line, complete, at Fort Yellowstone, has been awarded by the Constructing Quartercaster, U. S. A., Fort Yellowstone, to W. D. LOVELL, of Minneapolis, Minn.

UPTON, WYO.—No bids were opened on June 9 by the city for the construction of water-works consisting of water mains, pumping machinery, water tower, etc. New bids will probably be asked for in about 30 days. George H. Davis is Town Clk. Burns & McDonnell are Engrs., Scarritt Bldg., Kansas City, Mo.

LEWISTOWN, MONT.—The lowest bid submitted to the city on June 12 for trenching and laying 50,000 ft. of 4 to 12-in. water mains was that of Lindstrom & Oren, of Butte and Billings, Mont., at $15,703. P. A. Chase is City Clk.

CULBERTSON, MONT.—The citizens have voted to issue $39,500 of bonds for the installation of a water system.

ST. LOUIS, MO.—Bids, including plans, will be received until noon, July 7, by the Board of Public Improvements for erecting, exclusive of foundations, at the low-service pumping station, Chain of Rocks, two steam turbine-driven centrifugal pumping units, complete, with condensing apparatus and all appurtenances. E. E. Wall is Water Comr.

MILAN, MO.—Bids will be received until July 8 by the town for the installation of a water-works system. Estimated cost, $25,000. Hiram Phillips is Consult. Engr., Third National Bank Bldg., St. Louis, Mo.

*KANSAS CITY, MO.—Bids will be received by the Purchasing Agent of Kansas City, until 2 p. m., July 12, for design, manufacture and installation of a battery of water tube boilers, according to plans and specifications on file with the Board of Fire and Water Commissioners. E. B. Harrington, Sec.

CLARKSVILLE, ARK.—The city has decided to construct a water-works system. A. Ragon is interested.

LAKE VILLAGE, ARK.—The City Council will receive bids until July 5 for drilling a deep well at the water-works. G. H. Bagby is Recdr.

✚FORT WORTH, TEX.—The City Commissioners have awarded the contract to the PITTSBURG FILTERING CO. for the construction of a 5,000,000-gallon filtration plant, at $69,983. T. J. Powell is Water Comr.

HUNTSVILLE, TEX.—The City Council will soon take steps towards enlarging the water-works pumping plant and increasing the water supply of the town. Another artesian well will be sunk and the capacity of the pumping plant doubled.

MELISSA, TEX.—The Melissa Water Works Co. has been formed here, it is reported, for the purpose of installing a water-works plant and distributing system. Dr. W. S. Wysong is at the head of the project. Wells will be sunk, a pumping plant installed and a system of mains laid throughout the town.

NEW BRAUNFELS, TEX.—The City Council has called an election of taxpayers for July 11 to vote on the proposition of issuing $87,000 of bonds for the construction of a dam across the Guadalupe River and the laying of water mains from the reservoir to Comal Springs, where a pumping station will be installed for furnishing the city with water.

SAN ANTONIO, TEX.—The Medina Irrigation Co. has been formed with headquarters here, it is reported, for the purpose of constructing a large system of irrigation in the valley of the Medina River. The company's capital stock is $1,000,000. The incorporators are T. B. Palfrey, Charles C. Cresson and Frank Gross, all of San Antonio. It is stated that more than $6,000,000 will be expended in the enterprise and that about 70,000 acres of land will be brought under irrigation.

OLNEY, TEX.—The city has voted to issue water-works bonds.

PALACIOS, TEX.—The city has voted to issue $18,000 of bonds for the construction of a water-works system.

BARTLESVILLE, OKLA.—E. T. Archer & Co., Consult. Engrs., Beals Bldg., Kansas City, Mo., are preparing plans for the installation of water-works here. Estimated cost, $250,000. Noted on June 8.

WAYNOKA, OKLA.—We are officially advised that bids will be received until about July 15 by the town for material for the construction of a water system and electric light plant. William Haviland, of Alva, Okla., is Engr. Noted on May 25.

✚COLORADO SPRINGS, COLO.—Bids were received on June 16 by the City Council for furnishing the materials and performing the labor necessary for the extension of water mains. The work includes: Furnishing and laying about 63,785 ft. of c.-i. pipe, 4 ins. to 16 ins., including about 43 tons of special castings. Alternate bids will also be received for 16-in., also 12-in. steel pipe; 143 gate valves and boxes; five hydro-electric remote controlled, 12-in. valves; five 12-in. pressure reducing valves; 53 tons of pig lead; two tons of calking hemp; 20 manhole covers; constructing 20 manholes. We are officially advised that contracts have been awarded as follows: For laying pipe, to J. SCHWARTZ, of Colorado Springs; for furnishing steel pipe, HENDRIE & BOLTHOFF, of Denver, Colo.; for specials, to J. B. CLOW & SONS, of Chicago, Ill.; for valves and c.-i. pipe, to AMERICAN CAST IRON PIPE CO., of Kansas City, Mo. Estimated total cost, $113,000.

✚FORT WORDEN (Port Townsend post-office), WASH.—McINNIS & HARRINGTON have been awarded the contract for constructing a 2,000,000-gallon concrete reservoir and water main pipe line at $31,200 and $5,100, respectively. Bids were opened on June 3 by Capt. E. C. Long, Constr. Q. M., U. S. A., Seattle, Wash.

✚SNOHOMISH, WASH.—The contract for the installation of a gravity water system here, including 16 miles of wood water mains, has been awarded to the ATLAS CONSTRUCTION CO., of Everett, Wash.

✚CENTRAL POINT, ORE.—The Council has awarded the contract for the extension of the water system to the JACOBSON-BODE CO., at $42,000.

✚PORTLAND, ORE.—Bids were opened on June 13 by the Water Board for furnishing 200 fire hydrants. The contracts for 190 hydrants was awarded to the CALDWELL MACHINERY CO., at $7,448. The contract for ten went to the GILBERT HUNT CO. Frank T. Dodge is Supt. Bd.

REDMOND, ORE.—Definite plans have been made by the city for the construction of a water pipe line from Cline Falls to Redmond. Estimated cost, about $25,000.

BAKER CITY, ORE.—Bids will be received by the City Clerk until noon, July 1, for constructing and furnishing all labor and materials for a conduit in connection with the water system.

LOS ANGELES, CAL.—The Board of Supervisors, Los Angeles, will receive bids until 2 p. m., July 24, for purchase of franchise granting the right to lay down and maintain for a period of 40 years, water pipes in certain portions of the county. H. J. Lelande is County Clk.

✚SACRAMENTO, CAL.—The contract has been awarded to HARD BROS., of Maxwell, Cal., for 110,0000 cu. yds. of earth work for the Sacramento Valley Irrigation Co., at about $25,000.

✚FORT MASON (San Francisco post-office), CAL.—The contract has been awarded to J. J. LEONARD, Builders' Exchange, San Francisco, by Lt.-Col. George McK. Williamson, Constr. Q. M., U. S. A., Fort Mason, for the construction of the 6,000,000-gallon reservoir at The Presidio, at $41,950. PRINGLE-DUNN & CO., 338 Pine St., San Francisco, received the contract for making the repairs to the water system, at $15,975.

BURNABY, ONT.—Bids will be received by W. Griffiths, Clk. Municipal Council, until 5 p. m. July 24, for supplying about 138 sluice and special valves varying in size from 3- to 24-in. Cleveland & Cameron, 506 Winch Bldg., Vancouver, B. C., are Engrs.

ST. CATHERINES, ONT.—Bids will be received by the Chairman of the Water-Works Commission for pipe laying until noon, July 13, for Section A, 4,200 lin. ft. of rock tunnel 5-ft. × 8-ft.; Section B, excavation and pipe laying 5,000 ft. 24-in. and 30-in. c.-i. pipe; 36-in. c.-i. intake pipe; concrete intake and value chambers; building auxiliary reservoir; Section C, excavation and pipe laying 15,000 ft., 24-in. c.-i. pipe. Specifications and plans may be seen and forms of proposal obtained at the office of the Water-Works Commission, City Bldg., James St. Alex. Milne, Supt.

SEWERS.

*(*Denotes that this work is advertised in Engineering News.)*

BOSTON, MASS.—Bids will be received until June 30 for driving piles in Southampton St. for supporting a sewer. L. K. Rourke is Comr. of Pub. Wks.

BUFFALO, N. Y.—The City Council has ordered construction of sewers as follows: 10-in. tile in Newfield St., between Roesch and O'Neil Sts.; 10-in. tile in Sheridan Ave., between Northland and Delavan Aves.; also directed placement of contract for construction of sewers as follows: 36, 30, 27 and 24-in. brick, 20, 18, 15 and 12-in. tile sewer in Connelly St., Olympic, Warwick and Northumberland Aves., between Bailey and Kensington Aves., with W. C. CULLITON at $16,793; for 27-24-in. brick and 20-in. tile sewer in Elmwood Ave., south of Amherst St., with JOHN MILLER at $4,448; for 18, 15, 12 and 10-in. tile in Kenmore Ave., between Elmwood Ave. and Eugene St., 10-in. tile in Eugene St., south of Kenmore Ave., and 10-in. tile in Nebraska, Calvin, Amos and Orlando Places, south of Kenmore Ave., with JOHN M. FAHNING at $3,300; also 10-in. tile in Worcester Place, between Kensington and Leroy Aves., with JOHN M. FAHNING.

FRANKFORT, N. Y.—Bids will be received until June 29 by the Board of Sewer Commissioners for construction of a complete sewer system.

✚SCHENECTADY, N. Y.—The contract has been awarded to the KALTEN & FRANK CO., Schenectady, N. Y., for the construction of sewers in Baker Ave. at $19,000.

✚ELIZABETH, N. J.—The contract has been awarded to the CANTRELL CONSTRUCTION CO., at $8,950, for constructing sewers on Eddystone Ave., Ninth St., Saville Ave., from Ninth to Chester Pike, Twelfth St., Thirteenth St. and Chester Pike.

HADDONFIELD, N. J.—Bids will be received by the Street Committee of the Council of the Borough of Haddonfield, N. J., until July 3 for the construction of about 1,474 ft. of terra cotta pipe storm sewer. The work includes the laying 550 ft. of 24-in. terra cotta pipe, 625 ft. of 18-in. terra cotta pipe, 299 ft. of 12-in. pipe for inlet connections, 11 inlets complete with connections and three manholes, with their appurtenances, as shown on plans in the office of Engineers Sartori & Remington, 207 Temple Bldg., 415 Market St., Camden, N. J.

SKILLMAN, N. J.—We are informed that Clyde Potts, 30 Church St., New York City, has been retained to design plans for a trunk sewer and sewage disposal works for the Village of Skillman, N. J. Dr. David C. Weeks is Resident Supt.

ERIE, PA.—See item under Miscellaneous Contracts: Fire Protection, Erie, Pa.

BALTIMORE, MD.—Bids will be received until July 5 by the Board of Awards for Sanitary Contract 68. Charles English, Sewer Comr., 904 American Bldg.

*BALTIMORT, MD.—Bids will be received by the Board of Awards, at the office of the City Register, City Hall, Baltimore, until July 5, for furnishing and delivering nozzles, deflectors and special castings for the sprinkling filters at the Sewage Disposal Works, located on the west shore of Back River, Baltimore County, Md. Specifications can be obtained at the office of the Sewerage Commission, Room 904 American Bldg., Baltimore, Md.

ROCKYMOUNT, VA.—See item under Water Supply—Irrigation.

*NASHVILLE, TENN.—The Board of Public Works will receive bids until 3 p. m., Aug. 10, for building about seven miles of circular brick trunk sewers, ranging in sizes from 30-in. to 111-in. in diameter. This work includes about 81,000 cu. yds. of both earth and rock excavation and about 43,000,000 yds. brick.

WEST LAFAYETTE, OHIO.—Bids will be received by E. L. Thompson, Village Clk., until July 10 for the construction of a storm water sewer system. Ross E. Hamilton, Coshocton, Ohio, is Engr.

CONNERSVILLE, IND.—Bids will be received until July 1 by the Advisory Board at office of Florea & Broaddus, Connersville, for the construction of drainage on the grounds of school building in Dist. No. 3. Kaufman & Son, Richmond, Ind., Archs.

TERRE HAUTE, IND.—Plans have been completed by D. M. Roberts for the construction of 1,000 ft. of 15-ft. reinforced-concrete sewer; also for 40-in. vitrified brick and 36 to 10-in. vitrified pipe sewers. The probable cost is $100,000.

SOUTH BEND, IND.—Bids will be received until July 5 by the Department of Public Works for the construction of a pipe sewer on Lindsey St. Specifications at office of Dept. Otto C. Bastian is Chm.

GLADWIN, MICH.—Bids will be received by Wm. J. Millard, Drain Comr. of Gladwin County, for the erection of the Van Horn drain.

GRAND RAPIDS, MICH.—The following bids were received on June 8 by the Board of Public Works for constructing the east side trunk sewer, (a) first section, (b) second section, (c) third section, (d) entire work: McDermott & Cooper, Grand Rapids, (c) $73,287; Carpenter & Anderson, Grand Rapids, (a) $156,646, (b) $133,236, (c) $79,576, (d) $356,736; A. H. Prange, Grand Rapids, (a) $153,815, (b) $146,312, (c) $70,691; G. W. Bunker & Co., (a) $138,624, (b) $154,-099.

HUBBELL, MICH.—Bids will be received June 30 for 700 ft. of 30-in. sewer tile. Village will furnish old tile. R. Martin, Hancock, Mich., is Engr.

LAKE FOREST, ILL.—Bids will be received until June 29 by James F. King, City Clk., for excavating, laying drain tile, catch basins with covers, etc. Specifications at office of City Clerk.

TWO RIVERS, WIS.—Bids will be received until June 30 by the Board of Public Works for the construction of approximately 282 ft. of 8-in. pipe sewer and one flush tank and the connecting of work so constructed with the existing sewers. Sureties required. Conrad Baetz is Chm.

WAYACONA, WIS.—Bids will be received until July 10 by the Building Committee of Columbia County for the construction of sewer and septic tank at the old asylum building. Plans can be obtained at office of Parkinson & Dockendorff, LaCrosse, Wis., Archs.

CEDAR RAPIDS, IOWA.—The citizens voted to issue $55,000 bonds to complete the storm sewer system here. L. J. Story, City Clk.; M. J. Miles is Mayor.

SOUTH OMAHA, NEB.—Bids will be received until June 30 by W. B. Cheek, Secy. Seymour Lake Country Club, for installing a sewer system for clubhouse. King & Holbrouch, 318 McCague Bldg., Omaha, are Engrs.

BUTTE, MONT.—This city will construct sanitary sewers. Paul A. Gow, Engr., City Hall, Butte, Mont.

PACIFIC GROVE, CAL.—T. R. Hunter, of Monterey, is preparing plans for the system of storm sewers and contract will soon be awarded. Cost, about $62,000.

TORONTO, ONT.—Bids will be received until July 4 by the Chairman of the Board of Control, City Hall, Toronto, Ont., for constructing Section 1 (Station 0 + 00 to Station 44 + 00) of the Wilton Division of Storm Overflow Sewer, Main Drainage Works; also for Section 2 (Station 0 + 00 to Station 35 + 62) and for Section 4 (Station 0 + 00 to Station 32 + 44) of the Low Level Interceptor, Main Drainage Works. Plans and specifications on file at the office of the Engineering News, New York.

GARBAGE DISPOSAL.

*(*Denotes that this work is advertised in Engineering News.)*

BOSTON, MASS.—Louis K. Rourke, Comr. Pub. Wks., rejected all bids on June 13 for the disposal of the refuse of the city for a term of ten years from Jan. 1. It is proposed that the city construct five garbage receiving stations in the various city districts, to cost about $20,000 each. It is probable that a short term contract will be first asked for—perhaps for six months—to be followed by a longer one. The bids for garbage disposal and for refuse may be separated, and will probably be advertised soon.

NEW YORK, N. Y.—Bids will be received by Lawrence Gresser, Pres. Boro of Queens, until 11 a. m., July 3, for the final disposition of garbage in the Fifth Ward of the Borough of Queens, City of New York, during the months of July, August and September, 1911, and furnishing and operating the necessary dumps, scows, tugs, tools, appliances and labor therefor.

HUNTINGTON, IND.—Bids will be received by the city until July 11 for the construction of a garbage crematory. H. I. Young is City Clk.

✚TEMPLE, TEX.—The contract for the installation of a garbage crematory here has been awarded by the City Council to R. H. WYNNE & CO.

SEATTLE, WASH.—The city proposes to construct three garbage incinerators to cost $120,000. Bids will probably be asked. R. H. Thomson is City Engr.

STREETS AND ROADS.

(✚Denotes a contract awarded.)

✚PORTSMOUTH, N. H.—The contract for 70,000 sq. yds. of brick block paving has been awarded to WM. L. DOLAN & CO., of Boston, Mass.

✚BOSTON, MASS.—We are officially advised that contracts for paving have been awarded as follows: On June 20, North St., granite block, to JOHN F. O'CONNELL, Boston, at $12,356;

✚On June 20, Fleet St., granite block, to McGUIRE & KIERNAN, Boston, at $6,436; Talbot Ave., brick block, to JAMES DOHERTY, Boston, at $49,654.

Bids will be received until July 3 by the Department of Public Works for constructing bitulithic pavement in Geneva Ave., and Northampton St., and tar macadam roadway in Harvard Ave. L. K. Rourke is Comr. of Pub. Works.

✚SPRINGFIELD, MASS.—The WARREN BROS. CO., 39 Temple Pl., Boston, have been awarded the contract for the bitulithic pavement in Pynchon, Bridge, Vernon and Court Sts., about 9,700 sq. yds., at $2.50 per sq. yd.

*NEWBURG, N. Y.—We are officially advised that the date of receiving bids for paving Grand St. has been postponed until July 11. The work includes 25,630 sq. yds. paving, 11,500 lin. ft. curbing, 15 catch basins, eight inlet basins, twelve sewer manholes, 25 cu. yds. extra concrete, etc. D. J. Contant is City Clk., and William J. Blake, Jr., City Engr.

✚ROCHESTER, N. Y.—Contracts for paving have been awarded as follows: Park Av., asphalt pavement, WHITMORE, RAUBER & VICINUS, $26,120; Gardiner Ave., asphalt pavement, ROCHESTER VULCANITE PAVEMENT CO., $15,613; Copeland St., brick pavement, CLARENCE AIKENHEAD CO., $6,633; Pinnacle Rd., brick pavement, E. V. BROTSCH, $7,858. The lowest bid received for constructing asphalt pavement on Winton Rd. was submitted by the Rochester Vulcanite Co., at $33,568.

NEW YORK, N. Y.—Bids will be received by Cyrus C. Miller, Pres. Boro. Bronx, until 10.30 a. m., July 6, for furnishing and delivering 50,000 gallons of tar road oil, 50,000 gallons of emulsifying road sprinkling oil, and 100,000 gallons of asphalt road oil, to the Bureau of Highways.

NEW YORK, N. Y.—Bids will be received by Alfred E. Steers, Pres. Boro. Brooklyn, until 11 a. m., July 5, for regulating, paving, curbing and constructing sidewalks on various streets.

NEW YORK, N. Y.—Bids will be received until July 11 by George Cromwell, Pres. of the Borough of Richmond, Borough Hall, St. George, New Brighton, N. Y., for paving, repairing and for constructing curbs on various streets and avenues in Richmond.

NEW YORK, N. Y.—Bids will be received until July 10 by Calvin Tomkins, Comr. of Docks, Dept. of Docks and Ferries, Pier A, foot of Battery Place, North River, Borough of Manhattan, N. Y., for furnishing all the labor and materials required for repairing the asphalt pavement on the marginal street, North River, Borough of Manhattan.

✚TROY, N. Y.—The contract for paving Locust Ave. with cement-concrete has been awarded to JOHN H. GLEASON, at $5,905. WALTER E. HASSAM will pave Fourth St., between Grand and Fourth St., with Hassam block, at $7,403.

NORTH HACKENSACK, N. J.—Bids will be received by the Mayor and Council of the Borough of Riverside at River Edge, N. J., until 8:30 p. m., July 3, for furnishing and laying concrete curb and sidewalk on Elizabeth St., and stone curb and flagstone sidewalk on Main St. Plans and specifications may be seen and blank forms of proposals obtained at the office of J. F. Zabriskie, Engr., Union Banking Bldg., Hackensack. Joseph A. Brohel is Mayor.

✚WESTFIELD, N. J.—Bids will be received by the Town Council until 8.15 p. m., July 17, for improving a portion of North Ave. The work consists of 7,000 cu. yds. of excavation, 5,500 sq. yards of 6-in. bituminous macadam pavement, 4,500 lin. ft. of underdrains, 270 lin. ft. of concrete culverts. Charles Clark is Town Clk.

NEWARK, N. J.—Bids will be received by the Joint Committees of the Boards of Chosen Freeholders of Essex and Hudson Counties until 3 p. m., July 5, for widening and improving the Newark Plankroad east of the Hackensack River, and for similarly improving the same road west of the Passaic River.

CORAOPOLIS, PA.—Bids will be received by E. C. Harper, Boro. Sec., until 7.30 p. m., July 3, for improving Chestnut St. and Hiland and Fifth Aves., the work to include the following approximate quantities: 1,928 cu. yds. of grading; 6,119 sq. yards of paving, and 3,458 lin. ft. of curbing.

FAYETTE CITY, PA.—Press reports state that bids will be received by W. H. Binns, Secy. Road Supervs., Fayette City, until July 1, for constructing a macadam telford road, 10,700 ft. long.

McKEES ROCKS, PA.—Bids will be received by George H. McGinness, Boro. Engr., until 8 p. m., July 3, for grading, curbing and paving Lawrence St. and others, about 4,000 sq. yds. of pavement.

NORTHUMBERLAND, PA.—Bids will be received by the Town Council until July 3, for grading, curbing and paving with brick about 3,102 sq. yds. on Front St.

PITTSBURG, PA.—Bids will be received by R. J. Cunningham, County Compt., until July 5, for constructing roads in the following townships: Elizabeth, 2.6 miles; O'Hara, 1.2 and .4 miles, North Versailles, .5 miles; Finday and Moon, 4.8 miles; Richland, 1.3 miles; Pine, .15 miles, S. D. Foster, Pittsburg, is County Road Engr.

NORTH BRADDOCK (Braddock post-office), PA.—Bids will be received by C. A. Stewart, Boro. Engr., until 3 p. m., June 30, for improving Lydia St. and others.

WASHINGTON, PA.—We are officially advised that bids will be received by John H. Moffitt, County Controller, until 11 a. m., July 12, for improving 22 miles of road in accordance with the plans prepared by Chaney & Armstrong, County Engrs., Washington. The cost is estimated at $400,000. H. R. Campbell is Clk.

✚WILKES-BARRE, PA.—The contract for paving North Main St., between Culp St. and the city line, has been awarded to McCONNELL & FITZPATRICK, Scranton. The street will be paved with metropolitan block, at $2.31 per sq. yd., and 75 cts. per lin. ft. for curbing.

ANNAPOLIS, MD.—Bids will be received by the Board of Commissioners of Anne Arundel County until 11 a. m., July 5, for grading and surfacing with macadam Patapsco Ave., in the town of Brooklyn, Md., from First St. to Pennington Ave, a distance of about one mile.

WASHINGTON, D. C.—Bids will be received by the District Commissioners until 2 p. m., July 7, for laying cement sidewalks in the District of Columbia. Cuno H. Rudolph is Comr.

NORFOLK, VA.—Bids for paving at the Navy Yard, Norfolk, were received by the Bureau of Yards and Docks, Navy Dept., Washington, D. C., on June 7, as follows: J. H. Ferguson, 22 Parkman St., Dorchester, Mass., $33,676, for brick; Penn Bridge Co., Bond Bldg., Washington, D. C., $30,889, for brick; Field, Parker & Underwood, Inc., Arcade Bldg., Philadelphia, Pa., $30,577, for brick; Atlantic Bitulithic Co., Mutual Bldg., Richmond, Va., $35,127, for bitulithic.

RICHMOND, VA.—Bids will be received by the Clerk of Henrico County until noon, July 1, for the construction of about four miles of gravel road on Creighton Road., and 3½ miles on New Market Road, according to plans and specifications on file with State Highway Commission, Richmond, P. St. J. Wilson, State Highway Comr.

RICHMOND, VA.—Bids will be received by P. St. J. Wilson, State Highway Comr., Richmond, until July 6, for constructing one mile of macadam road between Christiansburg and Auburn, in Montgomery County.

HUNTINGTON, W. VA.—Bids will be received by the Board of Commissioners until 1 p. m., July 6, for the construction of vitrified brick, sheet asphalt, bitulithic, concrete asphalt, tarvia or asphalt block pavement on various streets. John Coon is Comr. of Sts., and A. B. Maupin, City Engr.

WILMINGTON, N. C.—Bids will be received by P. L. Moore, Councilman, Dept. Sts. and Wharves, until noon, July 15, for grading, paving and curbing Front St., approximately 24,000 sq. yds of pavement and 6,000 lin. ft. of curb.

TARBORO, N. C.—Bids will be received by the Street Paving Committee, Tarboro, until 4 p. m., July 7, for improving Main St., about 25,000 sq. yds. 8-in. bituminous macadam and a small amount of cement sidewalk, drainage, etc.; alternate bids will be received on 8,000 sq. yds. of vitrified brick paving on concrete base, and 17,000 sq. yds. bituminous macadam. Plans and specifications are on file at office of John A. Weddell, Clk., and Gilbert C. White, Engr., Durham, N. C.

✚JACKSONVILLE, FLA.—We are officially advised that contracts for paving were awarded on June 21, as follows: 17,379 sq. yds. of brick pavement, to the ENGINEERING & PAVING CO., Jacksonville, at $1.55 and $1.56 per sq. yd.; 8,840 sq. yds. of brick pavement, to the GEORGIA ENGINEERING CO., Augusta, Ga., at $1.58; 33,449 sq. yds. of asphalt block pavement, to GEO. R. FOSTER, JR., Jacksonville, at $2.095. Philip Prioleau is City Engr. Noted on June 15.

TAMPA, FLA.—Bids will be received by the Commissioners of Hillsboro County until 2 p. m., July 5, for constructing hard-surface pavement on 1½ miles of road, 16 ft. wide and 10 in. deep, and 2½ miles, 12 ft. wide and from 4 to 8 ins. deep.

COMO, MISS.—Bids will be received by Robert Ruffin, Mayor, until July 4, for laying 25,000 sq. yds. of concrete sidewalks and crossings. I. S. Jackson is Clk.

VICKSBURG, MISS.—Bids will be received by the City Clerk until 8 p. m., July 3, for paving Belmont St., from Washington to Cherry St., and Grove St., from Washington to First North St. J. J. Hayes is Mayor.

✚JACKSON, MISS.—Press reports state that a contract for paving several streets with asphalt has been awarded to the SOUTHERN ASPHALT & CONTRACTING CO., Birmingham, Ala., at $50,000.

MERIDIAN, MISS.—Bids will be received by the Good Roads Commission, Beat 1, C. C. Dunn, Chn., until July 6, for constructing approximately 14 miles of roadway. W. P. Moore, Meridian, is Ch. Engr.

NEW ORLEANS, LA.—Bids will be received at the office of the Highway Department of the Board of State Engineers of Louisiana, New Orleans Court Bldg., New Orleans, until noon, July 10, for the construction of a main public highway extending from New Iberia to Jeanerette, Iberia Parish, La. Gervais Lombard, Act. State Highway Eng.

✚NEW ORLEANS, LA.—We are officially advised that the contract for constructing a highway from Mansfield to Logansport, De Soto Parish, was awarded on June 20 to GEORGE EPPLE, Shreveport, La., at $28,038. All bids received for constructing a roadway from North St. to Bayou Sara Rd., in the City of Baton Rouge, were rejected as too high, and the work will be readvertised. C. C. Sandoz is Secy. Highway Dept. Noted on June 8.

CROWLEY, LA.—Bids will be received by R. J. Boudreaux, City Clk., until 6 p. m., July 6, for the construction of 300,000 sq. ft. of concrete sidewalks.

NASHVILLE, TENN.—Bids will be received by the Davidson County Turnpike Board until 10 a. m., July 5, for additional earth filling to widen approach to Hyde's Ferry bridge, requiring about 35,000 cu. yds. of filling. Plans and specifications are on file with Engineer of Board, Cole Bldg., Nashville. S. G. Marshall is Supt. Turnpikes of Davidson County.

RUTLEDGE, TENN.—Bids will be received by the Pike Road Commissioners of Grainger County until 10 a. m., July 1, for grading 16½ miles of county highway. M. Nance is Secy. Road Comn.

CHATTANOOGA, TENN.—Bids for paving Main St. have been received as follows: West Construction Co., bituminous concrete and concrete base, using Trinidad asphalt as a binder, $76,500. Noll Construction Co., bituminous macadam and macadam base, Standard Oil "C" as binder, $59,687; bituminous macadam and concrete base, using same binder, $76,647.50; 2½-in. bituminous macadam with 6-in. macadam base, $66,407. Southern Paving and Construction Co., vitrified brick and macadam base, $69,717; vitrified brick and concrete base, $74,837; bituminous macadam and macadam base, Union Oil binder; no guarantee, $51,477; bituminous macadam and concrete base, California asphalt as binder, $55,317; bituminous concrete, macadam base, California asphalt as binder, $55,947; bituminous concrete, concrete base, California asphalt, $60,757. H. S. Bosler, Chattanooga, liquid asphalt, $67,383. Southern Bithulithic Co., Nashville, Tenn., vitrified brick, macadam base, $79,527; vitrified brick, concrete base, $87,527; bituminous concrete and macadam base, Warren's Acme Puritan binder, $76,007; bituminous concrete base, $84,007. J. C. Collins, Mt. Vernon, Ill., vitrified brick, macadam base, $80,957; vitrified brick, concrete base, $88,957. The bids have been referred to E. E. Betts, Engr.

JOHNSON CITY, TENN.—Bids will be received by H. M. Dunlap, City Comr., until July 20, for 25,000 sq. yds. paving, 12,000 lin. ft. curb and gutter, 1,600 lin. ft. 6-in. sewer connections, etc., in improvement districts 7 and 8. E. E. Ellsworth is City Recorder.

MIDDLESBORO, KY.—Bids will be received by E. S. Helburn, Mayor, until July 1, for constructing sidewalks, curbing and guttering Cumberland, Winchester and other streets.

EAST LIVERPOOL, OHIO.—Bids will be received by C. V. Beatty, Dir. Pub. Ser., until noon, June 30, for improving Orange Alley, from Ravine to Watson St., by gradings, paving with hard-burned vitrified fire brick, and constructing all necessary curbs, retaining walls, sewers, gutters and drains, and for grading Cadmus St., from Indiana to Illinois St., in accordance with the plans, profiles and specifications on file in the office of the Engineer of the Department of Public Service.

LAKEWOOD, OHIO.—Bids will be received by the Board of Commissioners of Cuyahoga County until 11 a. m., July 12, for additional repairs to Detroit St., in accordance with the form of contract and specifications to be furnished by Frank R. Lander, County Surveyor. John F. Goldenbogen is Clk. of Comrs.

Bids will be received by B. M. Cook, Clk., until noon, July 3, for laying stone sidewalks, in accordance with plans and specifications on file at the office of the William H. Evers Engineering Co., The Arcade, Cleveland, Ohio.

OAKLEY (Cincinnati post-office), OHIO.—Bids will be received by Oscar Kosche, Vil. Clk., until noon, July 15, for constructing a cement sidewalk on Martha Ave. and other streets.

MOUNT GILEAD, OHIO.—Bids will be received by the Board of Commissioners of Morrow County until July 7 for macadamazing approximately 15 miles of county roads. Plans and specifications are on file with David Underwood, County Surveyor.

YOUNGSTOWN, OHIO.—Bids will be received by W. H. McMillin, City Clk., until noon, July 5, for grading Erie St., from Woodland to Williamson Ave.; paving Cleveland St., from Market to Hillman St., and similarly improving various other streets.

COLUMBUS, OHIO.—Bids will be received by the County Commissioners until July 12 for resurfacing 2.375 lin. ft. of Marion Rd., and 2,400 lin. ft. of Kennedy Pike. John Scott is Clk.

COLUMBUS, OHIO.—The lowest bids received for street improvement on June 13 were as follows:

Long St., from Woodland Ave. to Nelson Rd., S. T. Knight, $14,089; Rich St., from Fairwood Ave. to Lot No. 11, Wm. M. Graham, $8,757; Harris Ave., from Grace St. to Steele Ave., Wm. M. Graham, $5,069; McCoy St., from Eleventh St. to Jefferson Ave., Geigele, Garnes & Co., $3,048; Eldridge Ave., from Mt. Vernon Ave. to Maryland St., S. T. Knight, $10,006; Morrill Ave., from Parsons Ave. to Ann St., Wm. M. Graham, $5,316; Rich St., from Richard to Glenwood Ave., Geigele, Garnes & Co., $10,037; Hughes St., from Hawthorne to Clifton Ave., A. G. Pugh, $2,737; Southwood Ave., from High to Fourth St., Geigele, Garnes & Co., $5,499; Main St., from Canal to Mound St., H. J. Shaw, $10,866; Warren Ave., from Broad St. to Steele Ave., W. M. Graham, $9,235; Welch Ave., from High to Fourth St., Geigele, Garnes & Co., $6,365; Ogden Ave., from Broad St. to Steele Ave., W. M. Graham, $9,705; 16th Ave., from Summit St. to railway tracks, H. E. Barthman, $8,712; Short Alley, from Mound St. to Alley south of Livingston Ave., H. J. Shaw, $8,741; 17th Ave., from Summit St. to Second Alley east of Fourth St., H. E. Barthman, $9,911; Hildreth Ave., from Gibbon to Johnson St., A. G. Pugh, $12,990; Rich St., from Rose to Abbott Ave., W. M. Graham, $5,036; Southwood Ave., from Parsons Ave. to East Corporation Line, Wm. M. Graham, $14,258; Donaldson St., from Fourth to Seventh St., Geigele, Garnes & Co., $7,664.

✚COLUMBUS, OHIO.—The Commissioners of Franklin County have awarded the following road contracts: JOHN SNOUFFER, three miles of the Wilcox Road in Washington Township, $12,900; J. & R. E. KEYS, Rome and Hilliard Road, 6½ miles, $25,000.

MARYSVILLE, OHIO.—Bids will be received by the Board of County Commissioners until July 18 for the construction of the Bixler Road in York Township, Union County, until July 20, for the construction of the Schmelzer Road in Washington Township; and until August 5 for the construction of the Welch Road in Leesburg Township and the Eddy Road in Leesburg Township.

LUTHER, MICH.—Bids will be received by Norman Buchner, Clk. of Newkirk Township, until 4 p. m., July 15, for constructing 11½ miles of gravel road.

LANSING, MICH.—Bids will be received by Townsend A. Ely, State Highway Comr., until July 8, for improving one mile of road in St. Clair County. The work will include building earth embankment about 2,000 ft. long across Bell River Flats; paying and building a wooden guard rail along embankment, building a reinforced-concrete retaining wall and culvert. Plans and specifications are on file at the office of the State Highway Commissioner, Lansing, at the residence of Hon. James M. Haviland, one-half mile from the proposed road, and at the office of John J. Cox, Civil Engr., Court House, Coldwater, Mich., or plans and specifications will be mailed to intending bidders, with privilege of retaining the same for two days, after which they must be returned, postpaid, to the office of the State Highway Commissioner, Lansing.

CHICAGO, ILL.—The Sheridan Road Improvement Association will improve Sheridan Road from the city limits of Chicago to Lake Forest. The Aetna Engineering Bureau, 17 North LaSalle St., Chicago, has been retained to prepare a report, and as Supervising Engineers.

The city contemplates paving with creosoted wood block at an approximate cost of $100,000. Charles K. Mohler, McCormick Bldg., Chicago, is Arch.

ST. FRANCISVILLE, ILL.—Bids will be received by the Commissioners of Lawrence County until 2 p. m., July 6, for the construction of three macadam roads. George Gray is Comr.

STANLEY, WIS.—Bids will be received by the City Clerk until July 5 for approximately 4,200 sq. yds. vitrified brick, granolithic concrete or asphalt macadam paving, on Broadway and Fourth Ave., L. G Arnold, Chippewa Falls, Wis., is Engr.

MARINETTE, WIS.—Press reports state that approximately forty miles of cement walks will be constructed this summer.

RHINELANDER, WIS.—Bids will be received by the Board of Public Works until 2 p. m., July 17, for constructing macadam roadway, with combined cement [illegible] gutter, on portions of various [illegible] will be about 10,183 sq. yds. George C. Jewell, H. F. Steele [illegible] Calkins are the Bd. of Pub. Wks.

CORNING, IOWA.—Bids will [illegible] by William C. Chubb, City Clk., [illegible] p. m., July 3, for improving various streets as follows: 12,000 sq. yds. brick; [illegible] sq. yds. concrete paving, 2,373 lin. ft. combined curb and gutter, 1,857 lin. ft. 2,650 cu. yds. of grading.

GREENFIELD, IOWA.—Bids will be received by the Town Board until [illegible] July 11, for constructing about [illegible] yds. of brick or cement concrete [illegible] and 4,500 lin. ft. of curb. Plans and specifications are on file with the Iowa Engineering Co., Chase Block, Clinton, Iowa.

MINNEAPOLIS, MINN.—Bids will be received by the Board of Commissioners of Hennepin County until 11 a. m., July [illegible] for grading part of Road No. 83. A. Jackson is County Audr.

OLATHE, KAN.—Bids will be received by the Board of Commissioners of [illegible] County until July 5 for constructing [illegible] miles of road.

ST. LOUIS, MO.—Bids will be received by the Pitzman Co., 615 Chestnut St., until July 17 for grading Tesson [illegible] tween Pennsylvania Ave. and Hampton Ave. and Shaw tract, west of Grand [illegible] tween Shaw and McRee Aves., about [illegible] cu. yds.

ARGENTA, ARK.—Bids will be received by E. A. Kingsley, Engr., Little Rock, Ark., until 2 p. m., June 30, for macadamizing Washington Ave., from Sixth Ave. to city limits; and for paving with [illegible] blocks on concrete foundation, Washington Ave., from St. Louis Southwestern Ry. freight house to Sixth Ave. East.

BONHAM, TEX.—Bids will be received by T. W. Ragsdale, Mayor, until July 5 for constructing 22,645 sq. yds. of paving, 4,558 lin. ft. of concrete curb, 1,000 sq. yds. of grading, 670 lin. ft. of storm sewer and six catch basins.

FORT WORTH, TEX.—Bids will be received by F. J. Von Zuben, Act. City Engr., until 9 a. m., June 29, for paving East Front St., from Chamber Ave. to Virginia St.

✚GALVESTON, TEX.—We are officially advised that the contract for [illegible] building culverts, etc., and resurfacing the county road from causeway approach at Virginia Point to Texas City Junction and Highland Bayou was awarded on June 20 to J. C. KELSO, Galveston, at $28,490. The other bids were: F. Freund, Galveston, $30,738; L. R. Davis, Houston, Tex., $29,884. John M. Murch is County Audr. Noted on June 13.

✚TEMPLE, TEX.—The City Council has awarded the contract for paving ten blocks of residence streets with vitrified brick to OCKANDER BROS., Waco, Tex.

✚FORT SILL, OKLA.—The contract for constructing roads in Section A has been awarded to MAYFIELD SHAW, Lawton, Wash., at $12,147.

TACOMA, WASH.—Bids will be received by the Board of Commissioners of Pierce County until 11 a. m., July 1, for constructing two miles of water-bound rock macadam road.

✚HOQUIAM, WASH.—The contract for constructing Emerson Road was awarded on June 19 to ALLRED & JAMES, at $17,765.

SPOKANE, WASH.—Bids will be received by the City Council until 11 a. m., July 6, for grading, curbing and paving various streets. C. A. Fleming is City Clk.

✚ALHAMBRA, CAL.—The City Trustees have awarded a contract to O. F. EASLEY for the improvement of Main St., between Marengo and Fair Oaks Aves., at $20,000. The city has also ordered the following streets improved: Commonwealth Ave. Curtis Ave., Sixth St., Palm Ave. and Campbell Ave.

✚LOS ANGELES, CAL.—The County Board of Supervisors has awarded a contract to J. A. & C. H. HOWARD for building the section of the county highway between Alhambra and El Monte, at $23,957.

✚LOS ANGELES, CAL.—A contract has been awarded to the BARBER ASPHALT PAVING CO., Central Bldg., Los Angeles, for building, grading, curbing and paving a boulevard two miles long, consisting of two roadways each 27 ft. wide (one with asphalt concrete and one asphaltic macadam), at $27,011 per mile.

LOS ANGELES, CAL.—Homer Hamlin, City Engr., has submitted plans to the Board of Public Works for a boulevard to extend along the northern side of Elysian Park. Two separate plans for the road are suggested, one to cost $33,399 and the other $44,619. The second plan provides for a roadway 30 ft. wide and involves the excavation of 31,500 cu. yds. of solid rock and the construction of a steel retaining wall.

✚RICHMOND, CAL.—We are officially advised that contracts for paving were awarded on June 12, as follows: Fourth St., JAMES RUTHERFORD, at $14,297; Nevin Ave. and Eleventh St., G. W. CUSHING, at $10,695 and $13,305; Eighth, Twelfth and Thirteenth Sts., McMASTER & WORD, at $13,093, $11,626 and $11,536; Fourteenth St., J. J. DAVIS, at $11,138. J. R. Vaughn is City Clk. Noted on June 8.

LOS ANGELES, CAL.—Bids will be received by the Board of Supervisors of Los Angeles County until 2 p. m., July [illegible] for grading, paving and constructing culverts on certain portions of Long Beach Boulevard. H. J. Leland is County Clk.

SAN RAFAEL, CAL.—Bids will be received by R. E. Graham, Clk. Bd. Supervs., until 11 a. m., July 3, for repairing portions of various county roads.

MANUFACTURING PLANTS.

(✦*Denotes a contract awarded.*)

GARDINER, ME.—The Duffy & Boyd Hardened Copper Co. has filed incorporation papers at Gardiner, with $100,000 authorized capital stock. It will manufacture metal and other machinery and appliances especially the hardened copper trolley wheel invented by James H. Duffy. The directors are James H. Duffy, John Boyd, Gardiner, Me.; C. A. Messer, Gardiner; Mr. Duffy is Pres. and Mr. Boyd, Treas.

SPRINGFIELD, MASS.—The Bay State Brick & Stone Co., a new concern having an office at 17 Hampden St., will build a brick factory on the Chicopee Falls Road. The company will make silica brick. Charles M. Field is President of the concern. Its building will be of steel, brick and concrete construction, 244 × 45 ft., and two stories high. Charles M. Field is Pres.

WELL, MASS.—Plans have been prepared by the Bigelow Carpet Co. for a new warehouse, to be known as No. 17, to be located on the Pawtucket Canal, near Market St. It is to be 277 × 46 ft., and will be of brick, reinforced concrete and steel construction. The estimated cost is $100,000.

CAMBRIDGE, MASS.—The Boston Confectionery Co. is to erect a 3-story factory building on Main St. It is to be of reinforced concrete and will be 80 ft. × 80 ft. The Concrete Engineering Co., Boston, is Engr. Cost, $30,000.

EVERETT, MASS.—The Fort Hill Bronze Mfg. Co. has bought of the estate of Elizabeth C. Ames a lot adjoining its premises in Elm way, Everett, with a frontage of 50 ft. and extending 150 ft. to the Saugus Branch, and containing 6,850 sq. ft. The new owners plan to enlarge their present manufacturing plant.

NEW BEDFORD, MASS.—The B. F. Smith Construction Co., Engrs., of Pawtucket, R. I., has completed plans and is receiving bids for the erection of a 4-story and basement waste mill, 130 × 60 ft., at New Bedford, for Hill & Cutler, 567 Atlantic Ave., Boston. Estimated cost, $50,000. Noted last week.

BRIDGEPORT, CONN.—The Bridgeport Elastic Fabric Co., of Bridgeport, manufacturing narrow elastic webbing, is planning an addition to its plant. The new building will be 58 × 160 ft., three stories high, and will adjoin the present plant. A large ell, two stories high, a water tower and freight elevator will also be erected, according to reports.

Official advices are to the effect that bids will be received until June 30, for the construction of a factory in Bridgeport for the Artistic Bronze Co., of South Norwalk. Howard B. Close is Engr. Noted June 15.

BROOKLYN, N. Y.—We are officially advised that plans have been completed and bids will be received until July 6 by William Higginson, Arch., 13 Park Row, New York, for the construction of a metal ware factory at Nassau St. and the Flatbush Ave extension, for the Cary Mfg. Co., 19 Roosevelt St., New York.

✦DUNKIRK, N. Y.—B. F. ALDRICH has been awarded the contract for erection of the new wheel shop at the Brooks plant and will begin work soon. The new building is to be an extension of the old boiler shop and will be 260 × 80 ft.

NEW YORK, N. Y.—Bids will be received at once, we are officially advised, by Lee & Hewitt, Archs., 1123 Broadway, for the erection of an 8-story soap factory, 74 × 100 ft., for the Manhattan Soap Co., 560 West 36th St.

✦NORTH TONAWANDA, N. Y.—THE DUROLITHIC CO., 460 Ellicott Sq., Buffalo, has been awarded the contract for a factory building to be erected at North Tonawanda for the Rudolph Wurlitzer Mfg. Co. Rapp, Zettel & Rapp, of Cincinnati, Ohio, are Archs. The building will be 140 × 310 ft., three stories in height, of reinforced concrete, with sawtoothed roof, fire dors, elevators, heating, plumbing and sprinkler system and art stone trimmings. The cost is $150,000.

HERKIMER, N. Y.—The Standard Furniture Co. will shortly receive bids for a 6-story factory building, 100 × 140 ft., of reinforced concrete and structural iron, to be erected at Railroad and Washington Sts. Estimated cost, $75,000.

WATERVLIET, N. Y.—Estimates are being received for the construction of two buildings for the Manning Sand Paper Co., of Troy. One will be 48 × 66 ft., four stories and basement and the other 90 × 98 ft., two stories and basement. Both will be of brick, mill construction, with freight elevator and steam heat. Samuel M. Green, Inc., of Springfield, Mass., are the Archs.

✦BAYONNE, N. J.—We are officially advised that the general contract to erect a 2-story factory, 287 × 470 ft., in Bayonne for the American Radiator Co., of Chicago, Ill., has been awarded to the LACKAWANNA BRIDGE CO., 2 Rector St., New York. The estimated cost is about $200,000.

NEWARK, N. J.—The Union Brewing Co. will soon start work on an extensive addition to the plant at Springfield and Morris Aves., which will involve an expenditure of about $25,000. Plans for the structure have been completed, which will be three stories high, of fireproof construction, with brick walls and floors of steel and concrete. The ground floor will be occupied as a washhouse and the upper floors for malt storage.

JERSEY CITY, N. J.—Official advice is to the effect that plans will be ready for estimates about July 1, for the erection of a factory for the C. F. Mueller Co., 93 Boyd Ave., Jersey City. Balch & Beardsley, 38 West 32d St., New York, are the Archs. Noted June 8.

CHESTER, PA.—The Rawleigh Medical Co., at Front and Flower Sts., on the Delaware River front in Chester, has purchased a large tract adjoining its plant and will expend $50,000 in erecting an extensive addition.

PHILADELPHIA, PA.—Plans are being prepared by Sommerfeld & Steckler, Archs., 31 Union Sq., New York, for the erection of a 2-story factory, 60 × 150 ft., for the M. Zimmermann Co., 318 East Houston St., New York. Estimated cost, $50,000.

PHILADELPHIA, PA.—Henry Holmes & Sons, Inc., will erect three new buildings on the site of a part of their present mill at Alleghany Ave. and at A St., Philadelphia, for the manufacture of machine printed tapestry, carpets and rugs. They expect to build a printing plant, a dye-house and a storage wareroom.

TACONY, (Philadelphia post-office), PA.—The William Steele & Sons Co., 1600 Arch St., Philadelphia, is estimating on a 3-story concrete and brick crucible house, 144 × 50 ft., to be built at the Tacony plant of Henry Disston & Sons, Inc.

BALTIMORE, MD.—John S. Armstrong, 1200 Eutaw Pl., is interested in a plan to establish a fertilizer factory on the river front with an annual capacity of 50,000 tons.

✦CLARKSBURG, W. VA.—The Fairmont & Clarksburg Traction Co. has awarded a contract to the OWEGO BRIDGE CO. to erect a large steel car barn just west of the interurban station here and the construction of it will begin at once. The barn is to be 60 × 200 ft. with concrete foundations and it is to be absolutely fireproof. In addition, a workshop will be built to it. When complited, including the tracks, this improvement will cost in the neighborhood of $18,000.

CHARLOTTE, N. C.—The Tar River Hosiery Mills, of Washington, have been incorporated with an authorized capital stock of $120,000 by J. T. Lewis, F. W. Ayers and E. W. Ayres. The plan for this enterprise includes an equipment of 35 knitting machines and a 30-HP. steam plant.

MAYODAN, N. C.—According to reports, the Avalon Mills of Mayodan will rebuilt its plant which was recently burned. It will cost about $350,000 and the equipment will include 18,000 mule spindles, with accompanying machinery.

GREER, S. C.—The Greer Mfg. Co., of Greer, is planning an extensive enlargement and plans for additional buildings have been prepared. It is understood that construction and machinery contracts will be awarded soon, the bids having been received. This Greer plant has 10,240 ring spindles, 280 broad looms, 20 cards, etc., driven by electricity and employing 80 operatives. Its product is sheeting. The company increased its capital stock from $200,000 to $350,000, some time ago.

JACKSONVILLE, FLA.—S. S. Goffin, of Jacksonville, will establish a mill for manufacturing bags in which to ship fertilizer, grain, cottonseed, etc. The bags will be made of cotton and burlap. Mr. Goffin will organize a $50,000 stock company to own and operate the plant. A 2-story brick building will be erected to accommodate the machinery.

HUNTSVILLE, ALA.—The Farmers' Cotton Oil Co. has voted to increase the capital stock to $500,000, according to reports. Extensive improvements are contemplated and a modern fertilizer and acidating plant will be installed.

BIRMINGHAM, ALA.—A liquid carbonic acid plant will be erected in Birmingham at a cost of $25,000. Sam Worcester, Ben Oldham and associates have had plans drawn for the plant.

GADSDEN, ALA.—The Gadsden Concrete Co. has been organized with a capital of $10,000 for the purpose of establishing a plant to manufacture concrete sewer tile, building blocks, etc. The main structure will be 50 × 100 ft. A steam curing plant will be installed. W. R. Moore, of Birmingham, is Pres. and E. C. Little, of Gadsden, Vice-Pres.

TIOGA, LA.—The plant of the Lee Lumber Co., which was destroyed by fire recently, will be rebuilt. It will be of wooden construction, 40 × 200 ft. and will cost with machinery, from $65,000 to $75,000.

TALISHEEK, LA.—The Ozone Lumber Co., of Rio, La., has purchased 5,000 acres of timber and will erect a circular-saw mill with a daily capacity of about 50,000 ft. of lumber, at Talisheek. The machinery has been purchased. It is estimated that the mill and improvements will cost $25,000. J. R. Pratt, of Gulfport, Miss., is Pres., and F. W. Fatheree, of Rio, Gen. Mgr.

HARRIMAN, TENN.—Official advices are to the effect that the Tennessee Timber, Coal & Iron Co., of Harriman, plans to erect a saw mill and in connection with it will be the camp, houses for employees, etc. S. W. Miller is Gen. Supt.

MEMPHIS, TENN.—The Fort Smith Light & Traction Co. plans to enlarge its plant near Electric Park, for the manufacture of street cars.

✦NASHVILLE, TENN.—According to press reports, arrangements have recently been completed by the Severance Mfg. Co., at 202 Church St., whereby Nashville will not only have another factory, but will be the home office for a chain of nine factories throughout the United States. Some of the local parties reported to be interested are: Henry Sperry, John C. Schofner, Prof. J. I. D. Hinds, V. C. Severance, Ernest W. H. Jungerman and A. F. Whitman. The A. E. KINSEY CO., of Cincinnati, has the contract to supply the equipment for the Nashville factory, which will be located on First St.

CANTON, OHIO.—Harpster & Bliss, Archs., Nantucket Bldg., Akron, are preparing plans for a factory at Canton for the Knight Rubber & Tire Co., of Canton. Cost, $250,000.

WARREN, OHIO.—Plans are nearing completion for the construction of an automobile truck factory, containing a powerhouse, administration building and chemical laboratory. It will be a 1-story structure and will cover about 150,000 sq. ft. of ground. Wade & Scheibel, Wick Bldg., Youngstown, are the Archs. and the Universal Automobile Truck Co., of Warren, the owners. The project will cost about $450,000, it is stated.

COLUMBUS, OHIO.—The Hanna Paint Mfg. Co. has purchased a site on Water St. near Long St. and plans to construct a plant. James E. Hanna is Pres.

✦HAMILTON, OHIO.—The contract to erect an extension to the shop of the Black Clawson Co. has been awarded to CULLEN & VAUGHN. Cost, $12,000.

✦The same contractors have been given the contract to erect an extension to the plant of the American Foundry & Machine Co. Cost, $18,000.

TOLEDO, OHIO.—The Continental Sugar Co., of Cleveland, is negotiating to remove its plant to Toledo, where a beet sugar mill, to cost $800,000, will be established, it is reported.

YOUNGSTOWN, OHIO.—Plans have been prepared and work will be started soon on building additions to the plant of the General Fireproofing Co., which will increase its capacity 100% and employ 50% more men than at present. About 700 men are employed now. The building will be of reinforced concrete and will cost between $25,000 and $30,000. It will be completed Oct. 1.

HAMMOND, IND.—Chapin & Co., of West Hammond, will soon ask for bids for the erection of a cattle feed factory on the site of the one recently destroyed by fire.

ROCKPORT, IND.—The Lieb & Artman Box Mfg. Co. have ordered plans on which it will ask for bids for the rebuilding of its box factory, recently destroyed by fire.

DETROIT, MICH.—Albert Kahn and E. Wilby, Trussed Concrete Bldg., are preparing plans and will take figures in about a month for a 2-story brick factory for the Henry & Wright Ball Bearing & Drill Press Mfg. Co., of Hartford, Conn. The concern will move their entire plant to Detroit when the new plant is completed, which will be some time in December.

✦M. E. RYAN & SON, Penobscot Bldg., have been awarded the general contract for a third story addition to the plant of the Arctic Ice Cream Co., at Grand River Ave. and Ash St.

✦Polimar & Ropes, Cleland Bldg., have awarded the following contracts for the new baking plant for the Gordon-Pagel Baking Co., 461 Chene St.: Carpentry, to STRELOW & PETT, 700 Mack Ave.; masonry, to GEORGE DeNUTT, Blaine Ave. and Hamilton Boulevard; structural iron work, to the RUSSELL WHEEL & FOUNDRY CO. Cost, $40,000.

WELLS, MICH.—The Stephenson Charcoal Iron Co., recently incorporated by the Stephenson interests of Marinette, Wis., and Wells, Mich., has commissioned Frank C. Roberts & Co. as Engineers for the proposed $500,000 blast furnace plant to be constructed here.

JOLIET, ILL.—The Joliet Rolling Mill Co. at Joliet, of which George H. Lowe, formerly of Youngstown, is Supt., will spend $100,000 on improvements. A guide mill and 22-in. bar mill are to be installed.

✦PEORIA, ILL.—The general contract to erect a 4-story and basement factory, 110 × 125 ft., for Thomas & Clarke, cracker manufacturers, has been awarded to VAL JOBST & SONS. Carl Koechin is Arch. Cost, $70,000.

STERLING, ILL.—Plans have been completed by Raeder & Wood, Archs., 20 West Jackson Boulevard, Chicago, for the construction of a shop building and warehouse 5 and 1 stories, 163 × 83 and 420 × 120 ft., respectively, for Lawrence Bros. of Rock Falls. Estimated cost, $100,000.

KENOSHA, WIS.—Plans are beng prepared for the McComber & Whyte Rope Co., of Chicago, for the proposed $50,000 plant here. The buildings will be: Rope shop and warehouse, 440 × 140 ft.; reel shop, 60 × 40 ft., and a wire mill, 100 × 300 ft.

ST. LOUIS, MO.—The plant of the William G. Frye Mfg. Co., which was destroyed by fire recently, will be rebuilt on the same site. Roy E. Frye is Pres.

ST. LOUIS, MO.—A plant, to replace the one recently destroyed by fire, will be erected by the Jack Daniel Distilling Co. at 4000 Duncan Ave. Lemuel Motlow, of Lynchburg, Tenn., is Pres.; Walter L. Dearman, Mgr. and T. A. Heffernan, Secy. and Treas.

PINE BLUFF, ARK.—The Arkansas Short Leaf Lumber Co., of Kansas City, has been incorporated with $1,100,000 capital stock by R. A. Long, of the Long-Bell Lumber Co. and associates. This new company with C. B. Sweet as Vice-Pres., Kansas City, has purchased the Sawyer-Austin Lumber Co. at Pine Bluff, including 76,000 acres of timber land and a plant with an annual output of 40,000,000 ft. of lumber.

AMARILLO, TEX.—The Amarillo Planing Mill Co. has been formed here with a capital stock of $12,000. The incorporators are H. E. Hume, J. D. Anderson and W. F. Cooper.

AUSTIN, TEX.—The Westinghouse Machine Co. is investigating the situation here with the view of installing a plant for manufacturing electrical equipment.

The City Commission has under consideration the matter of installing a municipal abattoir and accessory plants.

J. A. Sober, of Sunbury, Pa., contemplates installing a peanut butter factory here.

The Capitol City Auto Co. will install a large automobile repair shop and machine works here.

BEAUMONT, TEX.—The installation of a municipal abattoir here is under consideration by the City Council. The proposed plant will cost about $25,000.

CLEBURNE, TEX.—Winfield Scott and associates will install a large cotton gin here.

DALLAS, TEX.—It is reported that the Ajax Waste Mills of Dallas, are preparing to rebuild the plant, which was badly damaged by fire a short time ago. The building was entirely destroyed and the machinery considerably damaged, at a loss of $35,000. William Burr is Pres.

FORT WORTH, TEX.—The Fort Worth Elevator Co., which recently increased its capital stock from $100,000 to $150,000, will make improvements to its plant.

LIBERTY, TEX.—The Liberty Light & Power Co., which is now installing an electric light plant and a 5-ton ice plant here, will also erect a creamery. R. E. Bowen is Pres.

LLANO, TEX.—The Teich Monument Co. has been formed here for the purpose of operating a stone cutting plant and monument works. It has a capital stock of $75,000. The incorporators are Frank Teich, Alfred J. Ridder and George Bodet.

MARATHON, TEX.—The Glass Mountain Canning Works has been organized here for the purpose of installing a canning factory. Isaac Roark is at the head of the project.

HUNTINGTON, ORE.—A cement plant, to cost $100,000, is contemplated by the Acme Cement Plaster Co., of which S. A. Walker is Vice-Pres., it is stated.

VALE, ORE.—M. G. Tope is one of the many interested in the establishment of a cement plant here. Estimated cost, $200,000.

MONROVIA, CAL.—A. W. Savage, of Duarte, has perfected his plans for organizing a company with a capital of $1,000,000, to undertake placing on the market an auto tire which he has invented and patented. Rudolph Spreckles is one of the stockholders. Mr. Savage intends to erect a factory in Monrovia to turn out at least 100 tires a day. Smaller subsidiary factories may be established elsewhere in America and Europe.

OROVILLE, CAL.—An option on 20 acres of land in the Lee-Higgins tract south of town suitable for a site for the trunk and furniture factory, proposed by himself has been taken by J. W. Fletcher. Mr. Fletcher proposes to build a trunk and furniture plant in this city adjacent to the mills of the Truckee Lumber Co.

CHATHAM, ONT.—It is stated that a sugar factory with a daily capacity of 1,000 tons will be built here. D. A. Gordon, M. P., of the Wallaceburg and Berlin factories, is interested.

LOUISBURG, (Cape Breton), N. S.—The Gorton-Pew Fisheries Co., of Gloucester, Mass., plans to establish a Canadian branch at Louisburg. A site has been selected and about $50,000 will be expended for construction, etc., it is stated.

MISCELLANEOUS CONTRACTS.

(✦*Denotes that this work is advertised in Engineering News.*)

U. S. RECLAMATION SERVICE.—All news concerning canal and irrigation projects, etc., will be found under Water Supply—Irrigation.

✦LEDGE EXCAVATION, DREDGING.—Portland, Me.—Bids were received as follows on June 26 by Lieut. W. E. Craighill, Corps Engrs., U. S. A., Portland, for (a) ledge excavation and (b) dredging at Rockport Harbor, Me.: Johnston & Virden, Lewes, Del., (a) $9.50 per cu. yd., (b) 5c. cts. per cu. yd.; Frank W. Carlton, Bath, Me., (a) $7, (b) $1; Eastern Dredging Co., Boston, Mass., (a) $8.20, (b) 45 cts.

ROCK EXCAVATION.—Boston, Mass.—Bids were received as follows on June 23 by Col. Frederic V. Abbot, Corps Engrs., U. S. A., Boston, for rock excavation in Gloucester Harbor, Mass.: Eastern Dredging Co., 247 Atlantic Ave., Boston, $28.70 per cu. yd.; Johnston & Virden, Lewes, Del., $39.50.

DOCKS.—Boston, Mass.—The bill providing for the creation of a Dock Commission, with authority to spend $9,000,000 for improving the docks of Boston, has been reported to the State Senate. Noted on June 22.

✦ROCK EXCAVATION.—Boston, Mass.—Bids were received as follows on June 26 by Col. Frederic C. Abbot, Corps Engrs., U. S. A., Boston, for rock excavation in Boston Harbor: Eugene Breymann, Toledo, Ohio, $19.60 per cu. yd.; Great Lakes Dredge & Dock Co., Chicago, Ill., $6.45; John B. Breymann, Toledo, $15.45; Daly & Hannan Dredging Co., Ogdensburg, N. Y., $21.75; Morris & Cumings Dredging Co., New York, $19.48; Johnston & Virden, Lewes, Del., $19.70.

ENGINE HOUSE.—Boston, Mass.—The city is considering the construction of an engine house at Oak Sq., Brighton District. Charles D. Daly is Fire Comr.

✦CHANNEL WORK.—Newport, R. I.—Bids will be received until 2 p. m., July 25, by Col. Frederic V. Abbot, Corps Engrs., U. S. A., Newport, for removing obstructions in Woods Hole Channel, Mass.

✦DREDGING.—Newport, R. I.—Bids were received June 20, as follows, by Col. Frederic V. Abbot, Corps Engrs., U. S. A., for dredging in Providence River and Harbor: (a) Scow measurement per cu. yd., Sections A and B; (b) boulders per cu. yd.; (c) removing lighthouse; (d) totals: George Leary, New York, (a) 12½ cts. and 24 cts.; (b) $6; (c) $1,000; (d) $286,798. Charles M. Cole, Fall River, Mass., (a) 11 cts and 25 cts.; (b) $10; (c) $1,000; (d) $264,715. G. H. Breymann & Bros., Toledo, Ohio, (a) 10 cts. and 20 cts.; (b) $3; (c) $2,000; (d) $233,018. Eastern Dredging Co., Boston, Mass., (a) 10.7 cts. and 21.9 cts.; (b) $8; (c) $200; (d) $249,272. Daly & Hannan Dredging Co., Ogdenburg, N. Y., (a) 8.7 cts. and 22 cts.; (b) $8; (c) $1,200; (d) $216,654. Coastwise Dredging Co., Norfolk, Va. (a) 9.9 cts. and 19 cts.; (b) $10; (c)

$500; (d) $227,090. Quantities: Section A, 1,091,321 cu. yds.; Section B, 308,679 cu. yds.; boulders, 50 cu. yds.

ENGINE HOUSE.—Hartford, Conn.—Bids will be received by the Board of Contract and Supply, Joseph Buths, Secy., until 11 a. m., July 10, for the mason, carpenter, plumbing, heating and electrical work for the new fire-engine house at Temple and Market Sts. Plans and specifications at McMahon & Whiton, Archs., 49 Pearl St., Hartford.

FIREPROOF STAIRWAYS.—New York, N. Y.—Bids will be received until 11 a. m., July 3 by C. B. J. Snyder, Supt. of School Bldgs., Dept. of Education, for fireproof stairways, fire protection work, etc., at Public School No. 68, Bushwick Ave. and Kosciusko St., Boro. Brooklyn.

✚REPAIRS TO PIERS.—New York, N. Y. The ROBBINS-RIPLEY CO., 50 Church St., New York, has been awarded the contract for making repairs to the wooden pier at the Government Reservation, Fort Hamilton, New York. This contract also includes a considerable amount of dredging and a rip rap breakwater.

REPAIRS TO ROOFS.—New York, N. Y.—Bids will be received by the Department of Public Charities until 2:30 p. m., July 10, for furnishing all the labor and materials required for repairs to roofs of various buildings at the New York City Home for the Aged and Infirm, Blackwells Island, City of New York.

HOSE WAGONS, CHASSIS.—New York, N. Y.—Bids were received as follows on June 20 by Joseph Johnson, Fire Comr., for (a) furnishing and delivering two automobile hose wagons and (b) furnishing and delivering six chassis fitted to six high-pressure hose wagons: Mack Bros. Motor Car Co., 30 Church St., New York, (a) $8,960, (b) $27,348; James Boyd & Bro., Inc., 25th and Wharton Sts., Philadelphia, Pa., (a) $8,580; The White Co., Broadway and 62d St., New York, (b) $27,500.

✚FERRY SLIP.—New York, N. Y.—The contract for the construction of a ferry slip at Governor's Island, New York Harbor, has been awarded to the McHARG-BARTON CO., New York, at $10,000.

FIRE PROTECTION, ETC.—New York, N. Y.—Bids will be received by C. B. J. Snyder, Supt. School Bldgs., Dept. of Education, until 11 a. m., July 10, for fire protection work at Curtis High School, and Public Schools 12, 14, 17, 32 and 34, Boro. Richmond; for new fireproof stairs at Public School 57, 176 East 115th St., and enclosing pupils' stairs at Public School 184, 116th and 117th Sts., east of Lenox Ave., Boro. Manhattan; and for alterations to pupils' stairs at Public School 87, 77th St. and Amsterdam Ave., and enclosing pupils' stairs at Public School 94, 68th St. and Amsterdam Ave., Boro. Manhattan.

SHELTER AND COMFORT STATION.—New York, N. Y.—Bids will be received by the Park Board, Dept. of Parks, until 3 p. m., July 6, for furnishing all the labor and materials for the erection and completion of a shelter and comfort station in Macombs Dam Park, City of New York.

ROAD OIL.—New York, N. Y.—Bids will be received by the Park Board, Dept. of Parks, until 3 p. m., July 6, for furnishing and delivering 500 barrels of emulsifying road sprinkling oil.

ELEVATORS.—New York, N. Y.—Bids will be received by Arthur J. O'Keefe, Comr. of Bridges, until 10 a. m., July 6, for furnishing and installing the elevators in the Municipal building.

DAMS.—Watervliet, N. Y.—The city is preparing to complete what is known as "Dry River Improvements," which consist of constructing two large storage dams for impounding flood water flow, and reinforced concrete storm water conduits to carry off the inflow from storage dams. The Solomon-Norcross Co., Candler Bldg., Atlanta, Ga., and F. J. Keis, Atlanta, are the engineers for these improvements.

*BARGE CANAL WORK.—Albany, N. Y. Bids will be received until noon, July 25, by Charles E. Tremen, Supt. Pub. Wks., Albany, for improving the New York State canals as follows: Contract No. 85, Section 3, for the reconstruction of a portion of the bridge between the villages of Canajoharie and Palatine Bridge, Sheets 1 to 6, inclusive; and Contract No. 88, Champlain Canal, Section 1, for the reconstruction of a portion of the bridge crossing the Hudson River at Schuylerville. Sheets 1 to 4, inclusive. Plans may be seen and detailed specifications, engineers' estimate of quantities, proposal blanks, form of contract and bonds required and other information for bidders may be had at the office of the Superintendent of Public Works, Albany, at the office of the Assistant Superintendent of Public Works for the Middle Division at Syracuse, N. Y.; at the office of the Assistant Superintendent of Public Works for the Western Division, at Rochester, N. Y.; and at the Canal Office, Spaulding's Exchange, Buffalo, N. Y. Copies of detailed plans or drawings may be obtained from John E. Bensel, State Engr. and Surv., Albany, upon payment to him of the cost of producing them. For details see advertisement in this issue.

FIRE PROTECTION, ETC.—Erie, Pa.—Bids will soon be asked by the Hammermill Paper Co., Erie, for fire protection work, heating, and sewers for the new additions to the company's plant here, which are now well underway.

PORT IMPROVEMENT.—Philadelphia, Pa.—Plans for the improvement of the port with the new state and city appropriations were submitted to the councils on June 22 by Joseph F. Hasskarl, Acting Dir., Dept. of Wharves, Docks and Ferries. The following work is proposed: For the construction of the superstructure of Vine St. pier, $200,000; two dumping mud scows, $20,000; repairs to Arch, Race and Chestnut St. piers, $58,500; dredging Dock St. dock, $5,000; new pier at Dock St., $250,000; boring for bulkheads, $10,000; bulkheading the Schuylkill River, $11,500; bulkheading the Delaware River from South St. to Christian St., $216,000; bulkheading the Delaware River from Callowhill St. to Fairmont Ave., $170,000; dredging the Schuylkill River, $50,000; bulkheading the Schuylkill River, $14,000. George R. Stearns is Dir. Pub. Works.

DREDGING.—Philadelphia, Pa.—Bids were received on June 24 as follows by Maj. Herbert Deakyne, Corps Engrs., U. S. A., Philadelphia, for dredging in Delaware River, in (a) Tinicum and (b) New Castle Ranges: American Dredging Co., Philadelphia, (a) 15.3 cts. per cu. yd., (b) 19.4 cts.; Maryland Dredging Co., (a) 16⅝ cts., (b) 19⅝ cts.; P. Sanford Ross, Inc., Jersey City, N. J., (a) 17.1 cts., (b) 20 cts.; American Construction Co., (a) 19¾ cts., (b) 16.7 cts.; The Breakwater Co., Philadelphia, (a) 21 cts., (b) 18 cts. In (a) it is estimated that 1,617,000 cu. yds. are to be removed; in (b) 500,000 cu. yds.

*STEAM SHOVEL EXCAVATION.—Altoona, Pa.—Details regarding the subletting of a 100,000-yd. gravel excavation job will be given on receipt of applications from contractors. Revolving shovel outfit preferred. Walter C. Foster, Lake Altoona, R. F. D. No. 2, Altoona, Pa.

TUGS.—Washington, D. C.—Bids were received at the Navy Department, Washington, on June 20, for constructing two seagoing tugs, as follows:

Fore River Shipbuilding Co., Quincy, Mass., Bid A, class 2, bidder's plans, one boat, $212,000, nine months; two boats, $210,000 each, second tug within ten months; Bid B, class 2, bidder's plans, same prices and time as Bid A; Bid A provides for Scotch boilers and Bid B for B. & W. boilers. Maryland Steel Co., Baltimore, Md.: Class 2, bidder's plans, two tugs, $209,600 each, one in eleven and the other in twelve months; class 2, bidder's plans, two tugs, $210,300 each, same time. New York Shipbuilding Co., Camden, N. J., Class 1, two vessels, Department design, $194,000 each; Class 2, bidder's plans, heated forced draft, $195,000 each; Class 2, bidder's plans, B. & W boilers, $205,000 each; time, within twelve months.

COLLIERS.—Washington, D. C.—Bids were received by the Navy Department on June 20 for the construction of four steel colliers, as follows: Newport News Shipbuilding & Dry Dock Co., Newport News, Va., Class 2, bidder's plans, Colliers 9 and 10, $955,00 each, 22 months from date of contract; Class 2, bidder's plans, two colliers, Nos. 11 and 12, $975,000 each; 22 months. If contract is awarded the four colliers will be built for $980,000 each, to be completed within 24 months; Class 2, colliers Nos. 11 and 12, B. & W. boilers, $997,000 each, time, 22 months. The New York Shipbuilding Co., Camden, N. J., it is reported, advised the department that the departmental plans and specifications required colliers which could not be built within the cost of $1,000,000 each. Maryland Steel Co., Baltimore, Md., Class 2, bidder's plans, transverse system, one of colliers Nos. 11 and 12, $984,000, or both colliers at $973,0000 each, time 18 and 24 months. Class 2, Isherwood system, one of colliies No. 11 or 12, $962,000 each, or both for $951,000 each; time, 18 and 24 months.

MOTOR TRUCKS.—Washington, D. C.—Bids were received as follows on June 20, by the Commissioners of the District of Columbia, for furnishing two motor trucks; Congressional Garage, Washington, $2,750 each; Motor Sales Co., Washington, D. C., $2,500 each; W. B. McBirney, Washington, D. C., $3,000 each; Imperial Motor Co., Washington, D. C., $3,205 and $2,295 each.

*MACHINERY.—Washington, D. C.—Bids will be received until 2 p. m., July 3, by the Department of the Interior, for the installation of coal and ash handling machinery in the old post-office building at Washington.

SUBMARINE TORPEDO BOATS.—Washington, D. C.—Bids will be received until noon, Sept. 1, by the Navy Department, Washington, for constructing by contract four submarine topedo boats, Nos. 36 to 39. Beekman Winthrop is Acting Secy.

CONDUIT.—Washington, D. C.—Bids will be received at the office of the Chief Signal Officer, War Dept., Washington, until July 19 for furnishing one carload of bituminized fiber conduit, Orangeburg, 3-in. socket joint, about 25,000 ft. per carload, including 20 gallons of coupling mixture. Capt. A. S. Cowan is Disbursing Officer.

HOSE.—Washington, D. C.—Bids were received on June 20 by the Commissioners of the District of Columbia for furnishing 15,000 ft. of 2½-in cotton-covered rubber-lined hose: Gutta Percha & Rubber Mfg. Co., 126 Duane St., New York, for the entire quantity, $16,500. Eureka Fire Hose Mfg. Co., 13 Barclay St., New York, Paragon Brand, $1.10 per ft.

*WHARF.—Washington, D. C.—Bids will be received by the Comrs. of the District of Columbia, until July 6, for reconstructing a wharf at Water and Ninth Sts.

BRICK.—Washington, D. C.—Bids were received as follows on June 22, by the Commissioners of the District of Columbia for furnishing 700,000 red sewer brick: Frederick Brick Works, Frederick, Md. (a) $9 per M., (b) $7.30; Reynoldsville Brick & Tile Co., Reynoldsville, Pa., (a) $14.35, (b) $8.25; R. W. Hay, Tarentum, Pa., (a) $13, (b) $6.30. Deliveries, (a) District property yard; (b) works of bidder.

✚WIRELESS TELEGRAPH TOWERS.—Arlington, Va.—The Bureau of Yards and Docks, Navy Dept., Washington, D. C., has awarded the contract for the construction of two 450-ft. and one 600-ft. steel towers for use in the new wireless telegraph station at Arlington, Va., to the BALTIMORE BRIDGE CO., Baltimore, Md., at $105,541. List of bidders noted on June 22.

CONCRETE DIKE.—Big Island, Va.—All bids received by the Bedford Pulp & Paper Co., Big Island, on June 14, for constructing a concrete dike, tailrace excavation, raising concrete and timber dam, and reinforced concrete floor construction have been rejected. The work, it is reported, will be let by private contract. F. R. Weller, Hibbs Bldg., Washington, D. C., is Engr.

✚TORPEDO SLIPS.—Norfolk, Va.—The Bureau of Yards and Docks, Navy Dept., Washington, D. C., has awarded the contract for the necessary repairs to the torpedo slips at the Norfolk Navy Yard to JOHN MONK, Norfolk, at $50,000. Lits of bidders noted on June 8.

DOCK WORK.—Norfolk, Va.—Bids will be received until 11 a. m., July 3, by the Bureau of Yards and Docks, Navy Dept., Washington, D. C., for the renewal of Richmond's dock at the Norfolk Navy Yard. R. C. Holyday is Ch. of Bureau.

LOCKKEEPERS' HOUSES.—Wheeling, W. Va.—Bids will be received until 11 a. m., July 17, by Major F. W. Alstaetter, Corps Engrs., U. S. A., Wheeling, for constructing six 2-story 8-room lockkeepers' houses, two each at Dams Nos. 12, 19 and 20.

*DAM.—Waynesville, N. C.—Bids will be received by the Southern Assembly for the erection of an earth dam and appurtenances, on the Assembly Grounds near Waynesville, until noon, July 24. Specifications and general plans may be seen at office of the Chief Engineer Southern Assembly, Waynesville, and at Engineering News, New York and Chicago, where bidding sheets may be obtained. Bidders are expected to examine the site and acquaint themselves with the local conditions. J. W. Seaver, Jr., is Ch. Engr., Waynesville.

*DIKES.—Savannah, Ga.—Bids were received on May 31 as follows, by Col. Dan C. Kingman, Corps. Engrs., U. S. A., Savannah, for building and repairing dikes in the Savannah River, near Augusta, Ga.: (a) Piles, Lot No. 1, 470 piles; Lot No. 2, 1,339 piles; Lot No. 3, 1,283 piles; (b) brush, 98,100 cu. yds.; (c) stone, 85,250 cu. yds.; (d) totals, Simons-Mayrant Co., Charleston, S. C., (a) $5.25; $3.75 and $3.00 each for lots 1, 2, and 3 respectively; (b) 54 cts. per cu. yd.; (c) $2.98 per cu. yd.; (d) $79,897. Twiggs & Bryan, Augusta, Ga., (a) $4; $3.50 and $3; (b) 75 cts.; (c) $2.50; (d) $97,035. Amount available for the work $84,504.

*STONE.—Savannah, Ga.—Bids will be received until noon, July 26, by Col. Dan C. Kingman, Corps Engrs., U. S. A., Savannah, for furnishing and placing stone for raising the low places in jetties at Cumberland Sound, Ga. and Fla.

EXCAVATION.—Orlando, Fla.—The Orange County Commission, Orlando, will receive bids at the office of B. M. Hammond, Clerk of Circuit Court, Orlando, until noon, July 17 for improving the St. Johns River ferry at Geneva Ave. crossing, at the mouth of Lake Jessup, by deepening, widening and straightening cut-off channel north of present ferry channel and crossing. The work consists of excavation approximating 20,000 cu. yds. Plans and specifications are now on file at the office of the Clerk.

✚DRAINAGE DISTRICT.—Corinth, Miss. The Board of Drainage Commissioners, Corinth, on June 15 awarded the contract to H. C. McGINNIS, of Bement, Ill., for digging Tuscumbria Drainage District canal, 22.5 miles at the following prices: Main ditch, 6.98 cts. per cu. yd.; tributary ditches, 11.95 cts.; clearing right of way, $19.98 per acre. The district will reclaim 20,000 acres.

PIPE, OIL.—Baton Rouge, La.—Bids will be received until July 1 by the Board of Control at Baton Rouge for furnishing and delivering at Angola 13,000 ft. of 4-in pipe, 13,000 bbls. of fuel oil, delivered at Angola in tanks, either by boat or rail, not later than Oct. 1, and 5,000 bbls. of fuel oil delivered at Hope Plantation in tank, same time.

DITCHES.—Crowley, La.—Bids will be received until 3 p. m., July 15, by the Board of Commissioners, Sixth Ward, and Crowley Drainage District, Crowley, for the construction of 40 miles of open ditches from two to six miles in length, 16 to 40 ft. wide and 2 to 5 ft. deep, including about 600,000 cu. yds. W. S. White is Engr.

✚DEMOLISHING AND REMOVING BUILDING.—New Orleans, La.—Bids were received by the Orleans Levee Board on June 15 for demolishing and removing the reinforced concrete mill building of the H. F. Lawler Milling & Trading Co., Ltd. The bids follow: A. L. Patterson & Co., $17,400; Mark A. Morse, Jr., $12,200; Doullut & Williams, cost plus 15%; W. M. Wren, $19,500; E. A. Sammons Co., Ltd., $15,999; Jefferson Construction Co., $17,987; A. E. Perrin, $23,600; GENERAL CONTRACT CO., $8,300 (awarded contract).

STONE.—Memphis, Tenn.—Bids were received on June 12 by the Mississippi River Commission for furnishing 40,000 tons of rip rap stone. The bid of W. D. Cammack at $1 per ton delivered at Hopefield, Ark., has been recommended for award of contract.

✚BREAKWATERS.—Cleveland, Ohio.—The War Department has awarded the contract, it is reported, for the construction of breakwaters, etc., at Ashtabula, Ohio, to the EDWARD GILLEN DOCK, DREDGE & CONSTRUCTION CO., of Racine, Wis. Estimated cost, $1,000,000. Bids were opened on June 1 by Col. John Millis, Corps Engrs., U. S. A., Ceveland.

CABLES.—Columbus, Ohio.—Bids will be received by H. S. Holton, Dir. Pub. Safety, until July 6 for lead-covered underground cables as follows: 3,220 ft. of 20-pair; 3,225 ft. 15-pair; 435 ft. 10-pair, and 300 ft. 5-pair lead cable.

STREET SIGNS.—Columbus, Ohio.—Bids will be received until June 30 by H. S. Holton, Dir. Pub. Ser., for furnishing street signs.

✚ELIMINATION OF GRADE CROSSINGS.—Columbus, Ohio.—The Board of Control has awarded the contract for the elimination of grade-crossings in Spring St. and Dublin Ave., to D. E. SULLIVAN & SON, at about $25,000.

DRAIN.—Valparaiso, Ind.—Bids received until July 1 by C. L. H paraiso, for the construction of nor tile drain. G. F. Stinchfield Surv.

MASONRY WALL.—New Castle Commissioners of Henry Coun ceive bids at New Castle until the construction of a masonry the 10-acre work-house premises

ENGINE HOUSES.—Indianapo The Board of Public Works bids soon for the construction of fire engine houses. The appro $95,000. Herbert L. Bass is Arch

*STEEL, ETC.—Detroit, Mich be received until 3 p. m., Aug C. McD. Townsend, Corps Engrs. Jones Bldg., Detroit, for furn delivering at Sault Ste. Marie, M 380 tons of steel, etc., for lock tion.

NEW CHANNEL.—Bedford, Io will be received until July 3 for truction of a new channel for the River Drainage District. No. 1, long, requiring 248,421 cu. yds. tion, consisting of loam, silt and L. Holbrook is Engr.; C. A. Hall Audr.

DRAINAGE DISTRICT.—Jefferso Bids will be received by the Supe Green County until July 10 for material and constructing Drainag No. 74. E. S. Gose is County Aud

✚DRAIN.—Estherville, Iowa.—T tract for constructing Drain No. 4 awarded to the ARMSTRONG WORKS, Armstrong, Iowa, at Noted on June 22.

DRAINAGE DISTRICT.—Rockwe Iowa.—Contract will be let at Rockwell City some time during the summer for Drainage District No. 143. Information may be obtained from The County Auditor, Rockwell City, or blue prints will be sent on receipt of 50 cts. by A. O. Anderson, Engr., Ames, Iowa.

✚DITCH.—Anoka, Minn., Bids were received on June 22 by the county for the construction of Judicial Ditch No. 1. The contract has been awarded to the MULGREW-BOYCE CO., of Dubuque, Iowa, at $16,203.

DITCH.—Badger, Minn.—Bids will be received until 3 p. m., July 6, by F. C. Bertilrud, County Audr., Badger, for digging and constructing Ditch No. 9. The main ditch will be 13½ miles long with average depth of 4.8 ft. and will include 184,121 cu. yds.

DITCHES.—Fairmont, Minn.—Bids will be received until 1 p. m., June 30, by H. P. Edwards, County Audr., Fairmont, for the construction of County Ditch No. 24, about 54,725 ft. of 6 to 24-in. tile, estimated cost, $22,999; also until 2 p. m., June 30, by H. P. Edwards, County Audr., Fairmont, for the construction of County Ditch No. 25, about 29,625 ft. of 6 to 22-in. tile, estimated cost, $10,446.

DITCH.—St. Paul, Minn.—The contract will probably be awarded in July at St. Paul, for the construction of a state ditch in Northern Minnesota, including 1,800,000 cu. yds. of earth. The excavation will be 16 miles long and the work will include the construction of 35 miles of roadway. George A. Ralph is State Drainage Engr., St. Paul.

HOSE AND HOSE CART.—Gettysburg, S. Dak.—The City Council will receive bids until 8 p. m., July 11, for furnishing 750 ft. of 2½-in. service fire hose, with the privilege of purchasing an additional amount at the same or lesser price; and one service hose cart of a rated capacity of 700 to 1,000 ft. of service hose, with the privilege of purchasing one additional hose cart of the same capacity at the same or a lesser price. R. L. Flickinger is City Audr.

METAL CULVERTS.—Fargo, N. Dak.—Addison Leach, County Audr., will receive bids until noon, July 19, for the supply of metal culverts until April 1, 1912.

✚DRAINAGE.—Butler, Mo.—The contract has been awarded by the County for additional work, about 1,140,000 cu. yds. of excavation in Drainage District No. 1, to CALAHAN BROS., MUNN & REISE, Kansas City, Mo., at $123,990. Bids were opened on June 21. W. B. Weeks is County Clk.

*STEAMBOATS.—St. Louis, Mo.—Bids will be received by the Mississippi River Commission, Liggett Bldg., St. Louis, until noon, July 26, for the construction and delivery of two 99-ft. sternwheel steamboats. Information on application to Lt.-Col. Charles L. Potter, Corps Engrs., U. S. A., Secy.

DRAINAGE DISTRICT IMPVT.—Osceola, Ark.—The Morgan Engineering Co., of Memphis, Tenn., has completed final plans for the improvement of Drainage District No. 9, of Mississippi County. A number of smaller districts have heretofore been organized in the county with the object of improving smaller areas. District No. 9 includes most of the smaller districts, and covers an area of 300 square miles. About 300 miles of main and lateral dredge ditches will be required, costing somewhat more than $1,000,000. Bids will probably be called for within the next 60 days. It is the intention of the engineers to divide the contract into several sections, leaving the various bidders to bid on one or more, as they see fit. The engineers of the Morgan Company have spent several months in making a complete topographic and drainage survey of the district.

DRAINAGE CANAL.—Pine Bluff, Ark.—Commissioners of Drainage District No. 2 of Jefferson County, will receive bids until July 3 at the office of J. B. White, Engr. of Comrs., Pine Bluff, for digging a drainage canal of about 200,000 cu. yds. Plans, maps, profiles and specifications can be obtained from the engineers. C. H. Triplett is Chairman.

✚SAND FILLING.—Galveston, Tex.—John M. Murch, County Audr., Galveston, opened bids June 19 for the county's share of sand

filling required for mainland approach to the causeway at Virginia Point. The contract has been awarded to the NORTH AMERICAN DREDGE CO., Galveston, at 30 cts. per cu. yd.

CANAL WORK. — Orange, Tex. — The Commissioners, Orange, it is reported, will issue $43,000 of bonds for completing the Sabine-Naches Canal.

✚RECLAMATION.—Boise, Idaho.—Bids were received by the U. S. Reclamation Service, Boise, on June 10, for construction of a branch railway from Barrington to the site of the Arrowrock Dam, between stations 491 + 57 and 874 + 00. The work includes the excavation of about 100,000 cu. yds. of earth and about 35,000 cu. yds. of rock. The contract has been awarded to MAY BROS., of Boise, at $75,150. F. E. Weymouth is Superv. Engr.

BELT CONVEYOR, ETC.—Fallon, Nev.—Bids will be received by B. W. Cole, Project Engineer, U. S. Reclamation Service, Fallon, until July 5, for furnishing at Fallon a 36-in. belt conveyor, 925 ft. long, gravel screen and all accessories complete per Proposal No. 1178.

DITCHES. — Goldendale, Wash.—Bids will be received until July 1 by H. J. Marshall, County Treas., Goldendale, for constructing County Drainage District No. 1, 200,000 ditches. Howell, Gossett & Walsh, are Engrs., 911 Spalding Bldg., Portland, Ore.

DREDGING.—Los Angeles, Cal.—Bids will be received by the Board of Public Works until July 24 for dredging 1,200,000 cu. yds. in the inner harbor at Wilmington, the soil to be used for filling the business section of Wilmington. H. B. Ferris is Clk. Bd.

STEEL AND RIVETS.—Los Angeles, Cal. The following bids were received by the Board of Public Works for furnishing steel and rivets for five riveted steel syphons for the Owens River Aqueduct: Threadwell Construction Co., $143,000 f. o. b. Midland, Pa.; alternate the same; W. M. E. Pollack Co., $150,000 f. o. b.; Youngstown, Ohio. The Reeves Bros. Co., $143,000 f. o. b. Alliance, Ohio; alternate $144,640. Pacific Coast Mfg. Co., $149,700 f. o. b., Pittsburg, Pa.; Hammond Iron Works, $165,385 f. o. b. Struthers Station, Pa.; Scully Steel and Iron Co., $167,000 f. o. b. Chicago, Ill.; the Ruemelı Dawley Mfg. Co., $169,900 f. o. b. St. Louis, Mo.; alternate $173,530; The East Jersey Pipe Co., $169,000 f. o. b. Paterson, N. J., for steel, and Glassport, Pa., for rivets; alternate $168,000; Riter Conley Mfg. Co., $169,987 f. o. b., Pittsburg, Pa.; alternate also to the Petroleum Iron Works, $153,700 f. o. b., Sharon, Pa., with later telegraph deduction of $9,200; W. M. Graver Tank Works, $182,000 f. o. b., East Chicago, Ind. Camden Iron Works, $161,000 f. o. b., Camden, N. J.

WHARF.—Alameda, Cal. — Specifications have been submitted for the erection of a municipal wharf at the foot of Grand St. Reinforced-concrete piles will be used. The cost is estimated at $15,000. J. N. Chapman is City Engr.

RIVER IMPROVEMENT. — Sacramento, Cal.—The State Board of Examiners has approved the request of the U. S. Government for an appropriation of $400,000 by the State Legislature as California's share of the $1,000,000 to be spent by the federal engineers in widening the mouth of the Sacramento River and other improvements.

DOCKS.—San Pedro, Cal.—Two slips are to be dredged in the Miner Hill, which will add 4,300 ft. of wharves to the 9,818 lin. ft. on the pierhead line of the original plans for improving the concession. Announcement that work on these slips will be commenced at once following the reported sale of $20,000,000 of bonds by the Union Oil Co., which controls the concession. These slips will each be 1,300 ft. long and 300 ft. wide, dredged to a depth of 30 ft.

✚EXTENSION OF DIKES.—Vallejo, Cal.—The THOMPSON BRIDGE CO., 103 Main St., San Francisco, Cal., has been awarded the contract by the Bureau of Yards and Docks, Navy Dept., Washington, D. C., for the extension of dikes at the Mare Island navy yards, Vallejo, at $165,521. Bids were opened on June 3. List of bidders noted on June 8.

✚WHARF.—Alaska.—The Bureau of Yards and Docks, Navy Dept., Washington, D. C., has awarded the contract for the construction of a wooden pile wharf, trestle, etc., at Sitka, Alaska, to P. TRIERSCHIELD & J. E. GAMBLE, of Sitka.

✚GRAIN ELEVATOR.—Montreal, Que.—The JOHN S. METCALF CO., LTD., 54 St. Francis Xavier St., Montreal, has been awarded a contract by the Dominion Flour Mills, Ltd., for a reinforced-concrete grain elevator to be built in connection with their new flour mill at St. Henri, Montreal. Storage capacity 300,000 bushels, and a small working house to be built in connection with the storage elevator.

STEEL PIPE.—Burnaby, Ont.—Bids will be received by S. W. Griffiths, Clk. Municipal Council, until July 24, for the supply of about 47 miles of steel pipes varying in diameter from 3 to 24-in.

IRON FENCE, ETC.—Toronto, Ont.—Bids will be received by F. S. Spence, Chn. Bd. of Control, until noon, July 4, for an iron fence and entrance gates for the high level pumping station.

✚DREDGING. — Ottawa, Ont.—Contracts have been awarded as follows by the Department of Public Works of Canada, Ottawa, for dredging in various places: Thames River, Ont., W. E. PHIN, of Arnprior, Ont.; Penetanguishene, Ont., R. WEDDELL & CO., of Trenton, Ont.; Echo Bay, Algoma District, Ont., K. ROBERTSON, A. B. FERRIER and J. L. KENNEDY, of Sault Ste. Marie, Ont.; Wiarton, Ont., C. S. BOONE DREDGING & CONSTRUCTION CO., LTD., of Toronto, Ont.; Salt Point, Presqu'Ile, Ont., R. WEDDELL & CO., of Trenton, Ont.; Kincardine and Port Elgin, Ont., DREDGING & DRAINAGE CO. OF ONTARIO, LTD., of Toronto; Toronto Harbor, from Eastern Channel into Ashbridge's Bay, R. WEDDELL & CO., of Trenton, Ont.; Big Creek, Ont., CHATHAM DREDGING & GENERAL CONTRACTING CO., LTD., of Chatham, Ont.; Kingsville, Ont., WINDSOR DREDGING CO., of Windsor, Ont.; Nicolet River, Que., L. COHEN & SON, of Montreal, Que.

✚LANDING WHARF.—Ottawa, Ont.—The contract for the construction of a landing wharf at Cape Rouge, N. S., has been awarded by the Department of Public Works of Canada, Ottawa, to ROBERT & BARTH MUSGROVE, of North Sydney, N. S., at $15,884.

CONCRETE ABUTMENTS.—Toronto, Ont.—Bids will be received until June 30 by A. L. Hertzberg, Division Engr., Canadian Pacific Ry. Co., Toronto, for concrete abutments in connection with the Jane St. subway at West Toronto.

DRY DOCK.—Toronto, Ont.—J. B. Miller, Pres. Polson Iron Works, Toronto, is negotiating with the government for a subsidy for a dry dock at Toronto. Plans have been prepared for a dock of the third class to cost $900,000.

CONTRACT PRICES.

✚SEWERS.—Clinton, Iowa.—The following bids were received on June 13 for the completion of sewers in District No. 4; (A) Engineer's estimate, R. C. Hart C. E., City Engr.; (B) GREEN & SON, Appleton, Wis.; (C) Independent Construction Co., Davenport, Iowa; (D) Lytle Construction Co., Sioux City, Iowa; (E) Dearborne & Jackson, Cedar Rapids, Iowa; (F) Carey & Son, Clinton, Iowa; (G) Rink & Schnell, Clinton, Iowa:

COMPLETION OF SEWERS IN DIST. NO. 4, CLINTON, IOWA.

	A	B	C	D	E	F	G
DIVISION A.							
1,343 lin. ft. 1½ ring brick sewer, 30-in.	$4.62	$4.00	$4.50	$5.00	$4.00	$4.62	$5.00
355 lin. ft. vitrified pipe, 36-in.	4.00	4.50	4.10	5.00	5.50	4.00	5.00
360 lin. ft. vitrified pipe, 30-in.	2.95	3.80	3.05	4.00	3.75	2.95	3.50
1,585 lin. ft. vitrified pipe, 24-in.	2.12	2.15	2.10	2.00	2.00	2.12	2.50
709 lin. ft. vitrified pipe, 20-in.	1.70	2.05	1.80	2.00	1.50	1.30	2.30
1,636 lin. ft. vitrified pipe, 18-in.	1.45	1.45	1.50	1.50	1.75	1.45	1.80
1,715 lin. ft. vitrified pipe, 15-in.	1.22	1.16	1.20	1.50	1.40	1.22	1.60
4,576 lin. ft. vitrified pipe, 12-in.	.99	.90	1.00	1.00	1.15	.99	1.40
3,995 lin. ft. vitrified pipe, 10-in.	.80	.80	.85	1.00	1.25	.80	1.26
3,075 lin. ft. catch basin pipe, 10-in.	.60	.60	.55	.60	.60	.60	1.00
4,200 cu. yds. rock excavation	2.25	2.60	2.50	4.00	3.25	3.25	3.00
34 manholes	32.00	36.00	32.00	40.00	30.00	32.00	40.00
41 catch basins	28.00	36.00	27.00	30.00	30.00	28.00	32.00
63 inlet basins	26.00	14.00	25.00	30.00	30.00	26.00	29.00
Totals	$40,623.35	$40,602.20	$41,443.50	$49,970.50	$48,318.15	$44,824.35	$51,148.75
DIVISION B.							
300 lin. ft. 2 ring brick sewer, 48-in.	$11.50	$12.00	$15.00	$12.00	$16.50	.....	.....
500 lin. ft. 1½ ring brick sewer, 48-in.	9.00	12.00	14.00	12.00	16.50	.....	.....
400 lin. ft. ½ ring brick sewer, 42-in.	8.85	12.00	13.00	10.00	14.25	.....	.....
410 lin. ft. vitrified pipe, 36-in.	6.75	9.00	12.00	9.00	14.00	.....	.....
810 lin. ft. vitrified pipe, 30-in.	6.25	7.50	10.00	8.00	10.00	.....	.....
867 lin. ft. vitrified pipe, 24-in.	3.23	4.80	4.00	4.00	3.75	.....	.....
831 lin. ft. vitrified pipe, 18-in.	2.12	3.20	2.75	3.00	2.75	.....	.....
840 lin. ft. vitrified pipe, 15-in.	1.85	3.00	2.00	2.00	2.50	.....	.....
4,148 lin. ft. vitrified pipe, 12-in.	1.34	2.35	1.75	1.50	1.75	.....	.....
740 lin. ft. vitrified pipe, 10-in.	1.05	1.50	1.25	1.20	1.10	.....	.....
1,620 lin. ft. catch basin pipe, 10-in.	.60	.60	.60	.60	.60	.....	.....
7,200 cu. yds. rock excavation	2.75	2.50	5.00	5.00	6.00	.....	.....
26 manholes	32.00	36.00	35.00	50.00	33.00	.....	.....
10 catch basins	28.00	36.00	27.00	30.00	33.00	.....	.....
41 Inlet basins	26.00	14.00	25.00	30.00	33.00	.....	.....
Totals	$55,221.45	$64,214.00	$84,514.25	$78,320.00	$95,162.50	.....	.....
DIVISION C.							
660 lin. ft. vitrified pipe, 12-in.	$1.18	$1.15	$1.20	$1.20	$1.25	$0.70	$1.70
400 cu. yds. rock excavation	2.25	2.60	1.20	4.00	3.20	3.25	2.00
1 manhole	32.00	40.00	32.00	40.00	30.00	35.00	40.00
Totals	$1,710.80	$1,839.00	$2,224.00	$2,432.00	$2,255.00	$1,797.00	$2,014.80
DIVISION D.							
181 lin. ft. vitrified pipe, 30-in.	$4.50	$4.20	$4.00	$5.00	$3.75	$4.00	$4.50
855 lin. ft. vitrified pipe, 20-in.	2.70	1.60	2.50	2.00	1.50	1.75	3.00
1,603 lin. ft. vitrified pipe, 18-in.	1.45	1.50	1.75	2.00	1.25	1.50	2.50
438 lin. ft. vitrified pipe, 15-in.	1.00	1.50	1.50	1.50	1.00	1.25	2.00
1,571 lin. ft. vitrified pipe, 12-in.	1.18	1.30	1.25	1.00	1.00	1.00	1.50
2,820 lin. ft. vitrified pipe, 10-in.	.98	1.10	1.00	1.00	.75	.70	1.25
818 lin. ft. catch basin pipe, 10-in.	.60	.60	.60	.60	.50	.60	.75
2,900 cu. yds. rock excavation	2.25	2.60	2.50	3.00	3.25	3.25	2.00
14 manholes	32.00	36.00	32.00	30.00	30.00	32.00	40.00
11 catch basins	28.00	36.00	27.00	30.00	30.00	28.00	32.00
18 inlets	26.00	14.00	25.00	30.00	30.00	26.00	30.00
Totals	$18,539.73	$18,719.80	$19,101.71	$20,289.80	$17,488.40	$19,057.05	$20,634.10
		Awarded all districts.					
Grand totals	$116,095.33	$125,375.00	$147,283.46	$151,055.30	$163,324.05	$65,678.40	$73,797.65

U. S. POSSESSIONS AND CUBA.

✚GENERATORS.—Pearl Harbor, H. T.—The contract for furnishing turbo alternators, etc., at the naval station, Pearl Harbor, has been awarded to the GENERAL ELECTRIC CO., Schenectady, N. Y., for $29,600.

LOCOMOTIVE CRANES.—Panama.—Bids were received as follows on June 26 by Capt. F. C. Boggs, Corps Engrs., U. S. A., Gen. Purchasing Officer, Isthmian Canal Comn., Washington, D. C., for furnishing two locomotive cranes for use on the Isthmus: Brown Hoisting Machinery Co., Cleveland, Ohio, $16,750; Industrial Works, Bay City, Mich., $17,400; Browning Engineering Co., Cleveland, $23,900.

ENGINEERING EQUIPMENT.—Panama.—Bids were received as follows on June 22 by Capt. F. C. Boggs, Corps Engrs., U. S. A., Gen. Purchasing Officer, Isthmian Canal Comn., Washington, D. C., for (a) eight electric cargo-handling cranes, four tons capacity, (b) three locomotive cranes, (c) one gasoline electric-driven passenger car, (a) to be delivered at Pier No. 67, North River, New York, (b) and (c) at Colon: Brown Hoisting Machinery Co., Cleveland, Ohio, (a) $96,000, (b) $25,950; Cleveland Crane & Engineering Co., Cleveland, (a) $92,120, alternate, $95,768; Maine Electric Co., Portland, Me., (a) $83,726; McMyler-Interstate Co., Bedford, Ohio, (a) $112,800, alternate, $120,000, (b) $34,425; Wellman-Seavor-Morgan Co., Cleveland, Ohio (a) $107,200; (b) $103,376; C. W. Hunt Co., West New Brighton, N. Y., (a) $118,560; Manning, Maxwell & Moore, 85 Liberty St., New York, (a) $105,848; General Electric Co., Schenectady, N. Y., (c) $29,316.

✚DYNAMITE.—Panama.—Bids for supplying 6,500,000 lbs. of 45%, and 3,500,000 lbs. of 60% dynamite, a total of 10,000,000 lbs., the estimated amount required for the Canal work during the fiscal year 1911-12, were opened recently in Washington. Awards were made as follows: 1,625,000 lbs. of 45% dynamite, to the KEYSTONE POWDER CO., at $12.25 per 100 lbs.; 4,875,000 lbs. of 45% dynamite, to the DUPONT-NEMOURS POWDER CO., at $12.73 per 100 lbs.; 1,750,000 lbs. of 60% dynamite, to the KEYSTONE POWDER CO., at $13.65 per 100 lbs.; 1,750,000 lbs. of 60% dynamite, to the DUPONT-NEMOURS POWDER CO., at $13.82 per 100 lbs. The price of the dynamite under these awards averages over 1 ct. per lb. higher than the figures at which it was supplied for the present fiscal year, which, in turn, were higher than for the previous fiscal year. The prices, under the awards, for the three years in question are, as follows: Fiscal year 1909-10—45% dynamite, $10.60 per 100 lbs.; 60% dynamite, $11.60 per 100 lbs. One manufacturer was awarded the contract for the entire amount. Fiscal year 1910-11—45% dynamite—Keystone, $11.60; Du Pont-Nemours, $11.70, an increase of from $1 to $1.10 per 100 lbs. over the previous year's bid; 60% dynamite, Keystone, $12.65; Du Pont-Nemours, $12.70, an increase of from $1.05 to $1.10 over the previous year's bid. Fiscal year 1911-12—45% dynamite, Keystone, $12.25; Du Pont-Nemours, $12.73, an increase of from 65 cts. to $1.03 over the previous year's bid; 60% dynamite, Keystone, $13.65; Du Pont-Nemours, $13.82, an increase of from $1 to $1.12 over the previous year's bid. The estimate of dynamite required for the fiscal year ending June 30, 1911, was 13,727,000 lbs. The orders filled, or which remain to be filled, during the present fiscal year, aggregate 10,273,200 lbs.; the difference between the estimate and actual requirements, therefore, being 3,453,800 lbs.

FOREIGN CONTRACTS.

(To insure prompt attention, letters on consular business should be addressed to The American Consult at ——, ——. Such letters are opened and attended to by whoever may be in charge of the office. If addressed to the consul, personally, letters are forwarded to him, unopened, should he be absent, and a delay thus intervenes. If, in the meantime, he should have gone out of office, the matter may wholly escape attention.)

STEAM LIGHTERS.—Brazil.—Bids will be received until Aug. 1 at the Direccion General de Obras Hidraulicas, Buenos Aires, for supplying two steam lighters.

RAILWAY WORK.—Brazil.—It is reported that the plans submitted by the Great Western of Brazil Ry. Co., Ltd., for the reconstruction of the section from Ribeiao to Cortez of the Ribeirao-Bonito Ry. have been approved.

TUGBOAT.—Brazil.—Bids will be received until July 24 at the offices of the Superintendencia da Navegaçao Ministerio da Marinha, Rio de Janeiro, for the construction of a tugboat for the port of Para.

TELEGRAPH CABLE.—Australia.—Bids will be received until 3 p. m., Aug. 8, at the office of the Deputy Postmaster, Melbourne, for five miles of paper-insulated, lead-covered telegraph cable with screened conductors under Schedule No. 529.

ELECTRIC PLANT.—Australia.—Bids will be received until noon, Aug. 14, by the Secretary of the Mortlake Butter & Cheese Factory Co., Ltd., Mortlake, Victoria, for an electric plant. F. A. McCarty & Co., are Engrs., 51 Queen St., Melbourne.

BRIDGES.—Siam.—Bids for the supply to the Siamese State Railway Authorities of six steel bridges will be received until 11 a. m., Sept. 1, by H. Gittins, Controlling Engr., Southern Line, Royal Siamese State Rys., Bangkok.

BRIDGE.—China.—It is reported that the construction of a metal bridge across the Yangtse-Kiang is proposed in order to join the Peking-Hankow and Hankow-Canton Rys. The bridge is to carry a double railway line, a carriage way, and a footway.

EXAMINATIONS.

CHEMIST.—Washington, D. C.—An examination to be held on Aug. 1 is announced by the U. S. Civil Service Commission to fill two vacancies in the position of Chemist, Division of Organic Chemistry, Bureau of Science, Manila, P. I., at salaries of $2,000 each a year, and vacancies requiring similar qualifications as they may occur, unless it shall be decided in the interest of the service to fill such vacancies by reinstatement, transfer, or promotion. It is desired to secure the services of two young men between 28 and 40 years of age with a high grade of scientific training who are capable of original work. A thorough training in general and organic chemistry at a reputable college or university and experience in organic research is a prerequisite for consideration for this position; a Ph. D. degree from a leading university would be preferable. A certain share of the routine work for the Government would devolve upon the persons appointed to these positions, but the history of the laboratory for the past has shown that each man has had ample time for himself to do research work. In general, the men would select their own topics for investigation, such topics, of course, to have some bearing upon the development of the Philippine Islands. Facilities for immediate publication of research work are found in the Philippine Journal of Science, which represents the Bureau of Science before the world. The attention of persons well trained and experienced in organic chemistry is especially invited to these vacancies since, if persons of the desired qualifications are secured, the prospects of promotion for both will be good, and the more capable one will probably succeed to the position of Chief of the Division of Organic Chemistry at $3,000 a year within a year or two. Examination form B. I. A. 2.

LABORATORY ASSISTANT.—Washington, D. C.—The U. S. Civil Service Commission announces an examination on July 10, to secure eligibles from which to make certification to fill vacancies as they may occur in the position of Laboratory Assistant qualified in advanced physics in the Bureau of Standards, Department of Commerce and Labor, at salaries ranging from $900 to $1,200 a year, unless it shall be decided in the interest of the service to fill the va-

cancies by reinstatement, transfer, or promotion. The duties in connection with these positions are similar to those of assistants in physical laboratories of scientific and technical institutions. As far as practicable, appointees are assigned to work in the subjects for which they are best fitted, such as heat and thermometry, weights and measures, optics, general researches, and testing. The examination will consist of the subjects mentioned below, weighted as indicated: Advanced general physics, 50 points; Education, experience, and fitness, 50 points. Applicants must have reached their 20th but not their 35th birthday. Examination form 1312.

INDUSTRIAL NOTES.

J. M. BETTON, manufacturer of the Druckluft injector sand blast apparatus, will remove about July 10 from 178 Washington St. to 14 Park Place, New York City.

MR. HIRAM ALLEN MILLER, Consult. Engr., has removed his office to 8 Beacon St., Boston. Mr. Miller recently completed his work on the Charles River Dam and Basin.

THE BUFFALO FORGE CO., Buffalo, N. Y., is now installing in the Mill No. 2 dye-house of the Farr Alpaca Co., at Holyoke, Mass., a heating system with one of their 9-ft. fans, pipe coil heaters and galvanized air ducts complete. A similar installation was made for the same concern a year ago.

THE STRUCTURAL STEEL PLANT of Geo. W. Jackson, Inc., of Chicago, is to be sold by the creditors' committee. This is a modern plant, with an annual capacity of about 70,000 tons.

MR. GEO. F. SCULL, who, for several years, was associated with the various Edison Companies of West Orange, N. J., as a patent expert, has opened an office in the Singer Bldg., 149 Broadway, New York City, where he will pass on patents and patent claims.

THE FORT WAYNE ELE... Fort Wayne, Ind., has been ... General Electric Co., Schene... same lines of apparatus a... continue to be manufactur... heretofore. Mr. F. S. Huntin...

THE MEAD-MORRISON ... ING CO. have closed a con... Canada Sugar Refining Co.... ada, for apparatus to handle... their refinery. The capacity ... will be seventy tons per ho... lation will be of interest bec... nious device for preventing ... tion of sugar in the buckets...

LIST OF CONTRACTS PENDING

Plans and Specifications on File.

The following plans (P.) and Specifications (S.) are on file for reference only unless otherwise noted at the office of The Engineering News Publishing Co., 220 Broadway, New York.

Bids close.		Noted in issue of
7- 1	Motor trucks, Washington, D. C. ..... (S)	6-15
7- 1	Elec. driven capstans, Hawaii. ..... (S)	6-15
7- 4	Sewers, Toronto, Ont..(P. & S.)	6-29
7- 8	Dock renewal, Norfolk, Va...(S.)	6-29
7- 8	Concrete walks, Norfolk, Va.(S.)	6-22
7- 8	Wharf, etc., Cuba.....(S)	6-15
7- 8	Power plant equip, Vallejo, Cal. ..... (S)	6-15
7- 8	Boilers, etc., Hawaii.....(S)	6-15

Light, Heat and Power Plants.

6-30	Lighting fixtures, Washington, D. C.	6-15
7- 1	Power plant equip., Buffalo, N. Y.	6-22
7- 3	Power plant equipment and transmission line, Stettler, Alta.....	6-22
7- 3	Conduit, wiring, gas piping and fixtures, Camden, Ark.....	6- 8
7- 3	Electric light plant equipment, Valley City, N. Dak.....	6-29
7- 3	Repairs, etc., New York.....	6-29
7- 5	Heating apparatus, Asbury Park, N. J.	6-29
7- 5	Heating plant, Babylon, L. I., N. Y.	6-29
7- 5	Street lighting, Baltimore, Md...	6-29
7- 5	Heating and ventilating apparatus, Boston, Mass.....	6-29
7- 6	Electric plant and system, Minocqua, Wis.	6-29
7- 8	Power plant equipment, Vallejo, Cal.	6-15
7-12	Heating system, Columbus, Ohio.	6-22
7-15	Conduits, wiring and lighting fixtures, Philadelphia, Pa.	6-15
7-24	Electrical apparatus, Moose Jaw, Sask.	6-29
8- 1	Electric railway, Brantford, Ont.	6-29
1-30, 1912	Power generating and pumping plants, Australia (Foreign).	6-15

Bridges.

6-29	Bridges, Hackensack, N. J.....	6-29
7- 1	Bridge, Madbury, N. H.....	6-29
7- 1	Bridge repair, Harrisburg, Pa..	6-22
7- 1	Bridges, Santa Fe, N. Mex.....	6-29
7- 1	Bridge, Newberry, S. C.....	6-29
7- 3	Bridge, Richmond, Va.....	6-29
7- 3	Bridges, Laporte, Ind.....	6-22
7- 3	Bridges, Orlando, Fla.....	6- 8
7- 3	**Viaduct, Houston, Tex.**.....	6- 1
7- 3	**Bridge, Santa Fe, N. Mex.**.....	5-25
7- 3	**Bridges, East Stroudsburg, Pa.**...	6-15
7- 3	Bridge, Valley City, N. Dak....	6-22
7- 3	Bridges, Hackensack, N. J.....	6-29
7- 3	Bridges, Mercer, Pa.....	6-29
7- 3	Bridge work, Clarksdale, Miss..	6-29
7- 5	Bridge work, Lindsay, Ont.....	622
7- 5	Bridges, Rockville, Ind.....	6-22
7- 5	Bridges, Columbus, Ind.....	6-22
7- 5	Bridge, Manhattan, Kan.....	6-22
7- 5	Bridges, San Jose, Cal.....	6-22
7- 5	Bridge, Santa Barbara, Cal.....	6- 22
7- 5	Bridges, Linneus, Mo.	6-15
7- 5	Bridge, Eureka, Cal.....	5-25
7- 6	Bridge work, Stockton, Ill.....	6-29
7- 6	Bridge, National Soldiers' Home, Va.	6-22
7- 7	Bridge, Cincinnati, Ohio.....	6-22
7- 7	Bridges, Alma, Kan.....	6-29
7- 8	Bridges, Richmond, Ind.....	6-29
7- 8	Bridge, Eldorado, Kan.....	6-29
7-10	Bridge, West Chester, Pa.....	6-29
7-10	Bridges, Richmond, Tex.....	6-22
7-10	Bridge work, Victoria, B. C.....	6-29
7-10	Bridge, Redding, Cal.....	6-29
7-12	Bridge work, Cleveland, Ohio...	6-22
7-12	Bridge, Columbus, Ohio.....	6-22
7-15*	Bridge, Massena, N. Y.....	6-29
7-17	Bridges, Mankato, Minn.....	6-22
7-17	Bridge, McElhattan, Pa.....	6-29
7-17*	Bridge, Fitchburg, Mass.....	6-29
7-19*	Superstructure, Cincinnati, Ohio.	6-29
7-25	Bridges, Albany, N. Y.....	6-22
9- 1	Bridges, Siam (Foreign).....	6-29

Buildings.

	At once Factory, New York. N. Y. (Mfg. Pl.)	6-29
6-29	School, Washington, D. C.....	6-22
6-29	School, Paynesville, Minn.....	6-29
6-29	Fire stations, Winnipeg, Man..	6-22
6-29	School, Blackwell, Okla.....	6-29
6-30	Building, New Haven, Conn.....	6-29
6-30	School, Garvin, Minn.....	6-29
6-30	School, Elmwood, N. J.....	6-29
6-30	Nurses' home, Portland, Ore.....	6-29
6-30	Factory, Bridgeport, Conn. (Mfg. Pl.)	6-29
6-30	High school, Paynesville, Minn..	6-22
6-30	School, Paton, Iowa.....	6-22
7- 1	**Plant, Detroit, Mich. (Mfg. Pl.).**	6- 1
7- 1	Schools, Miami, Okla.....	6-15
7- 1	**School, South Bend, Ind.**.....	6-15
7- 1	Hospital, Allentown, Pa.....	6-22
7- 1	Factory, Huntingburg, Ind. (Mfg. Pl.)	6-22
7- 3	School, Cincinnati, Ohio	6-15
7- 3	School, Chillicothe, Ohio	6-15
7- 5*	City building, Gillespie, Ill.....	6-15
7- 5	U. S. post-office, Wash., D. C....	6- 1
7- 5	School, Belle Plaine, Iowa.....	6-22
7- 5*	Building for college, Ithaca, N.Y.	6-29
7- 5	Building, Stamford, Conn.....	6-29
7- 5	Hospital bldgs., Stamford, Conn..	6-29
7- 6	Factory, Brooklyn, N. Y. (Mfg. Pl.)	6-29
7- 6*	Supt's dwelling, Thiells, N. Y....	6- 8
7- 7	School, Lake, Ind.....	6-29
7- 7	Schools, Dana, Ind.....	6-29
7-10	School, Pendleton, Ore.....	6-29
7-10	U. S. post-office, Ellsworth, Me..	6- 8
7-10	**School, Albany, N. Y.**.....	6-15
7-11	Railway shops, Winnipeg, Man..	5-15
7-11*	Dormitory, Sonyea, N. Y.....	6- 8
7-11	Car shops, Transcona, Man. (Mfg. Pl.)	6-22
7-11	Hospital, Fairfield, Iowa.....	6-22
7-11	Station bldgs., Ottawa, Ont.....	6-22
7-11	Bldg., Birmingham, Ala.....	6-22
7-12	School, Newark, Ohio.....	6-22
7-12	U. S. post-office, Milford, Mass.	6- 8
7-12	Schools, Topeka, Kan.	6-15
7-12	School, Newark, Ohio.....	6-29
7-14*	Hospital, Fort Strong, Mass....	6-29
7-15*	U. S. post-office, Cordele, Ga....	6- 8
7-15	Court-house, Mansfield, La.....	6-29
7-17	U. S. post-office, Ironton, Ohio..	6-15
7-18	Hospital, Canton, Ohio	6-29
7-19	School, Whippany, N. J.....	6-29
7-20	U. S. post-office, Waterville, Me.	6-15
7-20	School, Moville, Iowa.....	6-29
7-21*	U. S. post-office, Alpena, Mich..	6-22
7-24	U. S. post office, Bristol, Conn..	6-22
7-25	U. S. post-office, Schenectady, N. Y.	6-22
7-27	Court house, Sidney, Neb.....	6-15
7-27*	Group of buildings, Olympia, Wash.	5-11
7-28*	U. S. post-office, Rock Springs, Wyo.	6-22
8- 1	U. S. post-office Huron, S. Dak.	6-29
8- 2	U. S. post office, Great Bend, Kan.	6-29
8- 4	U. S. post-office, Sulphur Springs, Tex.	6-29

Water-Works.

6-29*	Water-works, Mandan, N. Dak..	6-15
6-29*	Pumping machinery, etc., Montreal, Que.	5-25
6-30	Filter equip., etc., Minneapolis, Minn.	6- 1
6-30	Water-works, Bridgeport, Neb..	6-22
6-30	Well, Fulda, Minn.....	6-29
6-30	Wells, Newbern, N. C.....	6-29
7- 1	Conduit, Baker City, Ore.....	6-29
7- 1	Water-main extensions, Sheldon, Iowa	6-29
7- 1	Laying pipe, Homewood, Ill.....	6-22
7- 1	**Franchise, England, Ark.**.....	6- 8
7- 3	Roof on reservoir, Mendota, Ill..	6-15
7- 3*	Laying pipe under water, Toronto, Ont.	6-22
7- 3	Pipe, supplies, Eveleth, Minn...	6-29
7- 3	Watermain, Vicksburg, Miss....	6-29
7- 3	Watermains, Jamestown, N. Dak.	6-29
7- 3	Well, Rockville, Ind.....	6-29
7- 5	Pipe and specials, Cleveland, O.	6-29
7- 5	Watermain, New Ulm, Minn....	6-29
7- 5	Pipe, etc., New York.....	6-29
7- 5	Well, Lake Village, Ark.....	6-29
7- 5	Dam, Falls Creek, Pa.....	6-29
7- 5	Watermain, Cleveland, Ohio....	6- 8
7- 6	Pipe, standpipe, etc., Milton, Del.	6-15
7- 6	Artesian well, Kentwood, La....	6-22
7- 6	Water-works, Gilmore City, Iowa.	6-22
7- 6	Dam, Chadron, Neb.....	6-29
7- 6	Watermain, Ellendale, N. Dak..	6-29
7- 7	Laying pipe, Boston, Mass.....	6-29
7- 7	Pumping units, St. Louis, Mo...	6-29
7- 7	W.-wks. extension, Columbus, Neb.	6-15
7- 8	Water-wks. impvts., Clinton, Ia.	6-29
7- 8	Water-works, Milan, Mo.....	6-29
7-10	Laying pipe, Macon, Ga.....	6-29
7-10	Water lines, High Point, N. C..	6-15
7-10	Pumping station, Camden, N. J.	6-22
7-10*	Laying water pipe, Pittsfield, Mass.	6-29
7-11	Sprinkler system, New York...	6-29
7-11	Well, etc., Sioux Falls, S. Dak.	6-29
7-12*	Boilers, Kansas City, Mo.....	6-29
7-13	Pipe laying, etc., St. Catherines, Ont.	6-29
7-13	Water-works, St. Catharines, Ont.	6-22
7-13*	Filters, Montreal, Que.	6-15
7-15	Water system, Waynoka, Okla..	6-29
7-16	Laying pipe, Macon, Ga.....	6-22
7-24	Franchise, Los Angeles, Cal.....	6-29
7-24*	Boilers, Clarksburg, W. Va....	6-29
7-24	Valves, Burnaby, Ont.....	6-29

Sewers.

6-29	Pumping station, Toronto, Ont..	6-22
6-29	Sewers, Frankfort, N. Y.....	6-29
6-30	Sewers, Boston, Mass.....	6-29
6-30	Sewers, Boston, Mass.....	6-22
6-30	Sewers, Gladwin, Mich.....	6-29
6-30	Sewers, South Omaha, Neb.....	6-29
6-30	Sewers, Two Rivers, Wis.....	6-29
6-30	Drain, Streator, Ill.....	6-22
6-30	**Sewer, Appleton, Wis.**.....	6-15
6-30	Sewers, Bucyrus, Ohio	6-15
6-30	Sewer, Hubbell, Mich.....	6-29
7- 1	Sewer, Parsons, Kan.....	6-22
7- 1	Sewers, Sheldon, Iowa	6-22
7- 1*	Sewers, Aurora, Ill.....	6-22
7- 1	Drainage, Connersville, Ind.....	6-29
7- 1	Sewers, Baltimore, Md.....	6-29
7- 3	Sewage disposal system, San Jose, Cal.	2-23
7- 3	Sewer, Haddonfield, N. J.....	6-29
7- 4	Sewers, Toronto, Ont.....	6-29
7- 5	Sewers, Baltimore, Md.....	6-29
7- 5	Sewers, South Bend, Ind.....	6-29
7- 5*	Sewers, Baltimore, Md.....	6-29
7- 6*	Sewer system, Madison, S. Dak..	6- 8
7- 7	Sewer, Louisville, Ky.	6-22
7-10	Sewers, West Lafayette, Ohio...	6-29
7-10	Sewer, Wayacona, Wis.....	6-29
7-11*	Sewage disposal plant imprvts., Sonyea, N. Y.....	6-22
7-11*	Sewer, Fitchburg, Mass.....	6-22
7-13	Sewers, Valley Junction, Iowa...	6-22
7-14	Electrical sewerage pumps, National Soldiers' Home, Va....	6-29
7-29	Sewers, Lake Forest, Ill.....	6-29
8-10	Sewers, Nashville, Tenn.....	6-29

Streets and Roads.

6-29	Road impvt., Greensburg, Pa....	6-22
6-29*	Grading, etc., Wash., D. C.....	6-22
6-29	Paving, etc., Roanoke, Va.....	6-22
6-29	Paving, Fort Worth, Tex.....	6-29
6-30	Paving, etc., Argenta, Ark.....	6-29
6-30	Street impvt., N. Braddock, Pa.	6-29
6-30	Paving, etc., East Liverpool, O.	6-29
6-30	Road treatment, Cincinnati, Ohio.	6- 8
7- 1	Paving Rome, Ga.....	6-22
7- 1	Paving, St. Petersburg, Fla.....	6-22
7- 1	Road impvt., Delaware, Ohio...	6-22
7- 1	Grading, Lisbon, Ohio.....	6-22
7- 1	Roads, Greencastle, Ind.....	6-22
7- 1	Road, Richmond, Va.....	6-29
7- 1	Grading, Rutledge, Tenn.....	6-29
7- 1	Road, Fayette City, Pa.....	6-29
7- 1	Sidewalks, etc., Middlesboro, Ky.	6-29
7- 1	Road, Tacoma, Wash.....	6-29
7- 3	Paving, etc., Los Angeles, Cal..	6-29
7- 3	Paving, McKees Rocks, Pa.....	6-29
7- 3	Paving, etc., Coraopolis, Pa.....	6-29
7- 3	Sidewalks, etc., North Hackensack, N. J.	6-29
7- 3	Paving, Boston, Mass.....	6-29
7- 3	Road repair, San Rafael, Cal....	6-29
7- 3	Grading, Minneapolis, Minn.....	6-29
7- 3	Paving, etc., Corning, Iowa.....	6-29
7- 3	Sidewalks, Lakewood, Ohio.....	6-29
7- 3	Paving, Vicksburg, Miss.....	6-29
7- 3	Road, Vernon, Ind.....	6-22
7- 3	Road, Portland, Ind.....	6-22
7- 3	Roads, Tipton, Ind.....	6-22
7- 3	Highway, Williamsport, Ind.....	6-22
7- 3	Road, Newport, Ind.....	6-22
7- 3	Road, Franklin, Ind.....	6-22
7- 3	Roads, Versailles, Ind.....	6-22
7- 3	Road, Salem, Ind.....	6-22
7- 3	Roads, Laporte, Ind.	6-22
7- 3	Grading, Greenfield, Ind.....	6-22
7- 3*	Paving, etc., Northumberland, Pa.	6-22
7- 3*	Paving, Johnstown, N. Y.....	6-22
7- 3	Paving, Parkersburg, W. Va....	6-15
7- 3*	Paving, etc., Westfield, N. J.....	6-15
7- 4	Paving, Stanley, Wis.....	6-29
7- 4	Sidewalks, etc., Como, Miss....	6-29
7- 5	Road impvt., Newark, N. J.....	6-29
7- 5	Grading, etc., Annapolis, Md...	6-29
7- 5	Filling, Nashville, Tenn.....	6-29
7- 5	Paving, Tampa, Fla.....	6-29
7- 5	Paving, etc., Youngstown, Ohio.	6-29
7- 5	Road, Olathe, Kan.....	6-29
7- 5	Roads, Pittsburg, Pa.....	6-29
7- 5	Paving, etc., New York, N. Y..	6-29
7- 5*	Paving, Olean, N. Y.....	6-15
7- 5	Road work, San Jose, Cal.....	6-22
7- 5	Road, Vincennes, Ind.....	6-22
7- 5	Street impvt., Cleveland Heights, Ohio	6-22
7- 5	Roads, Valparaiso, Ind.....	6-22
7- 5	Highway, Bloomington, Ind.....	6-22
7- 5	Road, Rushville, Ind.....	6-22
7- 5	Roads, Wabash, Ind.....	6-22
7- 5	Road, Logansport, Ind.....	6-22
7- 5	Road, Brownstown, Ind.....	6-22
7- 5	Road, Sullivan, Ind.....	6-22
7- 5	Roads, Kokomo, Ind.....	6-22
7- 5	Roads, Muncie, Ind.....	6-22
7- 5*	Paving, Charlotte, N. C.....	6-22
7- 6	Paving, Wilson, Pa.....	6-22
7- 6	Road, Evansville, Ind.....	6-22
7- 6	Road, Logansport, Ind.....	6-22
7- 6	Road, Monticello, Ind.....	6-22
7- 6	Roads, Kentland, Ind.....	6-22
7- 6*	Paving, Olean, N. Y.....	6-15
7- 6	Paving, etc., Spokane, Wash....	6-29
7- 6	Roads, St. Francisville, Ill.....	6-29
7- 6	Road oil, New York, N. Y.....	6-29
7- 6	Road, Richmond, Va.....	6-29
7- 6	Roadway, Meridian, Miss.....	6-29
7- 6	Paving, Huntington, W. Va.....	6-29
7- 6	Sidewalks, Crowley, La.....	6-29
7- 7	Sidewalks, Washington, D. C....	6-29
7- 7	Road repair, Cincinnati, Ohio...	6-15
7- 7	Road impvt. Mt. Gilead, Ohio...	6-22
7- 7*	Paving, Tarboro, N. C.....	6-22
7- 8	Paving, Norwalk, Va.....	6-22
7- 8	Concrete walks, Norfolk, Va....	6-22
7- 8	Roads, Marysville, Ohio.....	6-29
7- 8	Road, Lansing, Mich.....	6-29
7-10	Highway, New Orleans, La.....	6-29
7-10	Road, Williamsport, Ind.....	6-22
7-10	Roads, Rockville, Ind.....	6-22
7-10	Grading etc., Andalusia, Ala....	6-22
7-10*	Paving, Wadsworth, Ohio	6-22
7-10	Paving, New York	6-29
7-11	Paving, New York	6-29
7-11*	Paving, Newburgh, N. Y.....	6-29
7-11	Paving, Greenfield, Iowa.....	6-29
7-12	Road impvt., Washington, Pa...	6-29
7-12	Street repair, Lakewood, Ohio..	6-29
7-12	Resurfacing, Columbus, Ohio..	6-29
7-12	Paving, Columbus, Ohio.....	6-22
7-15*	Paving, etc., Wilmington, N. C...	6-15
7-15	Sidewalk, Oakley, Ohio.....	6-29
7-15	Gravel road, Luther, Mich.....	6-29
7-15	Paving, Bonham, Tex.....	6-29
7-17	Grading, St. Louis, Mo.....	6-29
7-17	Paving, etc., Rhineland.....	6- 8
7-17*	Paving, etc., Westfield.....	6-22
7-20	Paving, etc., Johnson C.....	6-22
7-20	Roads, Marysville, Ohio.....	6-29
8- 5	Roads, Marysville, Ohio.....	6-29

Miscellaneous.

6-29	Stone, etc., Vicksburg, M...	6- 8
6-29	Dredging, dike removal, Pilmington, Del.	5-11
6-29*	**Lock masonry, Detroit, M...**	6- 1
6-29	Levee construction, Mari...	6-15
6-29	Grandstand, Sacramento, ...	6-15
6-30	Railway, Panama.....	6-15
6-30	Subway, Fort William, O...	6-15
6-30*	Dredging, Wilmington, N...	6- 8
6-30	Removing rock, Richmon...	6- 8
6-30	Ditches, Fairmont, Minn...	6-29
6-30	Concrete abutments, Toron...	6-29
6-30	Street signs, Columbus, ...	6-29
7- 1	Ditches, Goldendale, Was...	6-29
7- 1	Drain, Valparaiso, Ind....	6-29
7- 1	Pipe oil, Baton Rouge, L...	6-29
7- 1	Railway, Ontario (Railway ...	6- 8
7- 1	Ditch, Lebanon, Ind.	6-29
7- 1	Motor trucks, Washington, D. C.	6-15
7- 1	Brush, etc., Memphis, Tenn...	6-29
7- 1	Elec. driven capstans, Hawaii ..... (U. S. Poss.)	6-15
7- 3*	Revetment, Kansas City, Mo....	6- 8
7- 3	**Police patrol telegraph system, Winnipeg, Man.**	5-11
7- 3	Fireproofing stairways, New York	6-29
7- 3	Drainage canal, Pine Bluff, Ark.	6-29
7- 3	Dock work, Norfolk, Va.....	6-29
7- 3*	Machinery, Wash., D. C....	6-29
7- 3	Garbage disposal (garbage)... N.Y.	6-29
7- 3	New channel, Bedford, Iowa...	6-29
7- 4	Iron fence, etc., Toronto, Ont...	6-29
7- 4	Steel rails, etc., Australia ..... (Foreign)	6-15
7- 5	Breakwater, Port Arthur, Ont...	6-15
7- 5*	Jetty work, Dallas, Tex.....	6- 8
7- 5*	Dredging, Savannah, Ga.....	6- 8
7- 5	Belt conveyor, etc., Fallon, Nev.	6-29
7- 6	Elevators, New York.....	6-29
7- 6	Cable, Columbus, Ohio.....	6-29
7- 6	Ditch, Badger, Minn.....	6-29
7- 6	Road oil, New York.....	6-29
7- 6	Shelter and comfort house, N.Y.	6-29
7- 6*	Wharf, Washington, D. C....	6-29
7- 6*	Dredging, Montgomery, Ala....	6-29
7- 6	Barn and ice house, Theills, N.Y.	6-15
7- 7*	Dredging, New London, Conn....	6-29
7- 8*	Dredging, Galveston, Tex.....	6-15
7- 8	Wharf, etc., Cuba..(U. S. Poss.)	6-15
7- 8	Boilers, etc., Hawaii..(U. S. Poss.)	6-15
7-10	Repairs to roofs, New York....	6-29
7-10	Engine house, Hartford, Conn...	6-29
7-10	Drainage district, Jefferson, Ia...	6-29
7-10	Fire protection, New York.....	6-29
7-11	Garbage crematory (garbage), Huntington, Ind.	6-29
7-11	Hose and hose cart, Gettysburg, S. Dak.	6-29
7-11	**Switchboard cable, Australia** ..... (Foreign)	6-15
7-11*	Dredging, Newport, R. I.....	6-15
7-12*	Stone, Savannah, Ga.....	6-15
7-15*	Iron and steel, Dallas, Tex.....	6-15
7-15	Station building, Charleston, S.C.	6- 1
7-15	Stone jetty, Sandusky, Ohio.....	6-22
7-15	Masonry wall, New Castle, Ind...	6-29
7-15	Ditches, Crowley, La.....	6-29
7-16*	Dredging, Portland, Me.....	6-22
7-17*	Dredging, Jacksonville, Fla.....	6-22
7-17*	Dredging, Newport, R. I.....	6-22
7-17*	**Dredging, Portland, Me.**.....	6-15
7-17	Excavation, Orlando, Fla.....	6-29
7-17	Lockkeepers' houses, Wheeling, W. Va.	6-29
7-18	Steel rails, Panama..(U. S. Poss.)	6-15
7-19	Metal culverts, Fargo, N. Dak.	6-29
7-19	Conduit, Washington, D. C....	6-29
7-20	Pier and sheds, Halifax, N. S....	6-15
7-24*	Dam, Waynesville, N. C.....	6-29
7-24	Steel pipe, Burnaby, Ont.....	6-29
7-24	Tugboat, Brazil (Foreign).....	6-29
7-24	Dredging, Los Angeles, Cal....	6-29
7-24	Spillway gates and caissons, Panama. ..... (U. S. Poss.)	6-15
7-25*	Channel work, Newport, R. I....	6-29
7-25*	Barge canal work, Albany, N. Y.	6-29
7-26*	Steamboats, St. Louis, Mo.....	6-29
7-26*	Stone, Savannah, Ga.....	6-29
8- 1	Steam lighters, Brazil (Foreign.	6-29
8- 1*	Steel, etc., Detroit, Mich.....	6-29
8- 1	Steamers, Argentine....(Foreign)	6-15
8- 1	Railway, Ontario (Rys.)	6- 8
8- 1	Railway, Ottawa, Ont.....	6-22
8- 7	Torpedo-boat destroyers, Washington, D. C.	6- 8
8- 8	Telegraph cable, Australia (Foreign)	6-29
8-10	Harbor works, St. John, N. B..	6-22
8-14	Electric plant, Australia (Foreign)	6-29
9- 1	Submarine boats, Wash., D. ...	6-29

Examinations.

Examination date.		Noted in issue of
6-29	Cable Tester, New York.....	6- 1
6-30	Inspector of Iron and Steel construction, New York.....	6- 1
7- 8	Elec. Engineer, Albany, N. Y....	6-15
7-17	Junior Mechan. Draftsman, New York	6-15
7-19	Mechanical Draftsman, Washington, D. C.	6-15
7-19	Topographical Draftsman, New York	6- 15
7-19	Laboratory Assistant, Wash.... C.	6-29
7-20	Mechanical Engineer, New York..	6-15
8- 1	Chemist, Wash., D. C.....	6-29

MESSRS. E. T. MURPHY and A. T. LEWIS, adopting the firm name of Murphy & Lewis, with offices in the Land Title Bldg., Philadelphia, have formed a co-partnership to act as sales engineers for the Buffalo Forge Co., and the Buffalo Steam Pump Co.

THE PRAGUE ELECTRIC CO. has been merged with the General Electric Co., Schenectady, N. Y., and business will be conducted under the name Sprague Electric Works of General Electric Co., 527-531 West 34th Street, New York, N. Y. Mr. D. C. Dunland is Mgr.

THE C. S. BARSTOW CO. has established its Northwestern office in the Spalding Bldg., Portland, Ore., under the direction of Mr. William S. Turner, who, in addition to his own business as consulting engineer, will represent this company on the Pacific Coast as Northwestern manager.

THE PITTSBURGH BRIDGE & IRON WORKS, Rochester, Pa., have decided to establish an office in Pittsburgh, through which all Pittsburgh, Erie and Buffalo work will be handled. This office will be located in the Farmers' Bank Bldg., Pittsburgh, in charge of Mr. J. A. McEwen.

THE H. W. JOHNS-MANVILLE CO., 100 William St., New York, is acting as sales agent for a new paste solder, known as "Soldereil," which is put up in collapsible tin tubes and can be applied and used by any one, the heat of a match being sufficient to fuse the material and effect the soldering.

THE CUTLER-HAMMER MFG. CO. announces the establishment of a new department under the direct supervision of Mr. W. S. Hadaway, Jr., at their offices, 144th St. and Southern Boulevard, New York City. This department will be devoted exclusively to the design and manufacture of electrical appliances for industrial heating.

TOCH BROTHERS, 320 Fifth Ave., New York, have opened a plant in Toronto, Canada, where all orders for the Dominion will be filled and direct shipments made. This plant is an addition to the factory at Long Island City, N. Y. Toch Brothers, Manufacturers and importers, specialize in technical paints, colors, varnishes and raw materials.

MR. S. ROSENZWEIG, who, as personal representative of Mr. Hugo Lentz, of Berlin, Germany, came to the Erie City Iron Works, Erie, Pa., a few years ago to act as their Consulting Engineer, while introducing the well-known Lentz Poppet Valve engine in this country, has moved to 1529 First National Bank Bldg., Chicago, Ill., where he is connected with the office of the Erie City Iron Works.

THE CITY OF ROACHDALE, IND., has recently organized a Commercial Club, and several improvements are proposed for the city, among others a Water-Works System. Whether this system will be municipal or private has not yet been determined. A water-works committee has been appointed, and this matter will be determined in the very near future. The Commercial Club proposes to locate new industries within the next few months.

MR. FAY WOODMANSEE, formerly with Sargent and Lundy, Mr. C. J. Davidson formerly with The Milwaukee Electric Railway & Lighting Co., Mr. E. O. Sessions formerly with the General Electric Co., have incorporated under the firm name of Woodmansee, Davidson & Sessions, with offices in the National Bank Bldg., Chicago. The firm will act in a consulting and supervising capacity in all branches of mechanical and electrical engineering.

THE NEW PULP MILL for the Pejepscot Paper Co., Topsham, Me., has recently been completed by the Aberthaw Construction Co., Boston. This reinforced concrete structure is 116 × 112 ft., and the power equipment consists of three pairs of 35-in. Victor turbines for each of the four concrete flumes for the grinders, and a long flume furnishes power for a pair of 35-in. wheels used for power purposes only. The engineer in charge of the work was Mr. I. W. Jones, Milton, N. H.

THE COPPER PRODUCERS' ASSOCIATION in its monthly report of copper production and consumption figures the production in May, 1911, as approximately 127,000,000 lbs. This compares with the production of 123,000,000 lbs. in the corresponding month last year and 118,000,000 lbs. in May, 1909. At the same time stocks in the hands of producers are smaller than they were two years ago by 15,000,000 lbs. That the consumption of copper in the country should have increased during a period of diminished activity indicates that numerous new uses for copper have been found, owing to its low price, and the probabilities are that when business is again active, consumption of copper will quickly exceed the production.

THE BARBER ASPHALT CO. calls attention, in its eighth annual report, to the fact that the company constructed approximately 3,760,000 yds. of asphalt paving during the year 1910, an increase of 560,000 yds., compared with the previous year. It is also pointed out that there is a steady diminution of the guarantee periods, which have been reduced from 10 years or more to an average of 3.5 years for the work done by this company in 1910. In September of last year the company discovered oil on its property adjoining the Trinidad Asphalt Lakes. The well has been producing at the rate of 3,000 bbls. a day. This is asphalt oil, especially adapted for road treatments. The company has begun the construction of storage tanks having a capacity of 1,000,000 bbls.

THE JONES & LAUGHLIN STEEL CO., Pittsburg, Pa., announce that on or before July 1, F. A. Goodrich & Co. will retire as their Detroit representative and that they will establish their own Detroit office in the Penobscot Bldg. Mr. Frederick H. Holt, heretofore in charge of the office of F. A. Goodrich & Co., will be District Sales Manager. Also that F. A. Goodrich Iron & Steel Co. will retire as their St. Louis representatives and that they will establish their own St. Louis office in the Pierce Bldg. Mr. E. B. Batchelor, heretofore connected with the sales department of the general offices, Pittsburg, will be District Sales Manager in St. Louis. Announcement is also made of the establishment of a Pittsburg Sales District, which has been put in charge of Mr. A. C. Pollock, formerly connected with the sales department in the general offices.

THE BALDWIN LOCOMOTIVE WORKS, Philadelphia, has made some important changes in its official staff and financial arrangements. The new board of directors consist of twelve men, four of whom were identified with the old company. The bankers in charge of the financing have offered $20,000,000, 7% stocks for subscription. The holder of the old $20,000,000 stock will receive $14,100,000 in cash, $5,900,000 in preferred stock and $11,970,000 of the common stock of the new company.

The concern was founded in 1831 by M. W. Baldwin, and while the firm name was changed and modified several times, it was known as the "Baldwin Works." On July 1, 1909, the Baldwin Locomotive Works assumed the business, consisting of the Philadelphia plant of 16¼ acres, and a plant at Eddystone, Pa., of 184 acres, as well as the Standard Steel Works Co., makers of steel and iron castings, steel wheels and springs. These plants had a capacity of 2,600 locomotives a year. The number of locomotives built at this plant in recent years has been as follows: 1900, 1,217; 1901, 1,375; 1902, 1,533; 1903, 2,022; 1904, 1,485; 1905, 2,245; 1906, 2,666; 1907, 2,663; 1908, 617; 1909, 1,083.

THE THOMSON METER CO. celebrated on June 24 the numbering and shipment of Lambert water meter No. 500,000, which was sent to Duluth, Minn. The luncheon given at the company's works, 100 Bridge St., Brooklyn, N. Y., in celebration of this event was preceded by a gathering of all the employees of the company to witness the award of prizes to those successful in guessing most nearly the date of numbering and shipment. Similar celebrations have been held for every 50,000th meter up to No. 400,000, and from then on it was planned to celebrate only every 100,000th. The amount of the prizes, or premiums, in dollars (this time $500), is made to correspond to the number of the meter in thousands. At each celebration, envelopes are collected containing the guesses for next time, each envelope bearing the guesser's name. The envelopes are not opened until the following celebration, when the premiums are awarded. The last previous event was of April 15, 1909, so the last 100,000 meters were made in about 800 days. This is the same period in which the preceding 50,000 meters were made.

The Lambert meter is named after its inventor, Mr. Frank Lambert, who is President of the company. It is of the single disk-piston, positive displacement type. The Thompson Meter Co. manufactures this type exclusively and claims to have been the first to make this type of meter a commercial success.

JAPANESE CENTRAL RY., COMPLETED.—The completion of the last section (about 50 miles) of the western division of the Central Ry. line, and the opening of the whole road to traffic on May 1, was celebrated at Nagoya. This division, George N. West, American Consul at West Kobe, says, follows an old Daimyo road called the Nakasendo. The Central Ry. runs from Tokio to Nagoya, through the central provinces of Kai, Shinano and Mino, opening up entirely new territory, the communication between these cities having been heretofore carried on by the Tokaido Ry., which follows close along the eastern coast, being also an old Daimyo road of the same name. The distance between Tokio and Nagoya is slightly less by the Central than by the Tokaido line, but as express trains will not be run for the present on the new line, through passenger traffic will continue to follow the old route for some time to come. The new line, however, will undoubtedly become a favorite, especially with tourists, as it runs through some of the most beautiful and interest scenery in Japan. The Government's chief object in the construction of this line is understood to be military, but at the same time it will greatly faciliate intercourse between several important and heretofore inaccessible and outlying districts, and is especially expected to exert a very favorable influence in the business of Osaka. Formerly goods sent to and from that city and the central provinces and Echigo had to go all the way round by Tokio, but now the new line makes a great reduction in distance and in freight rates. The cost of construction of the 225 miles amounted to $17,500,000. The 95 tunnels total 113,378 ft., the average cost being $45.62 per ft. The Sasago tunnel, the longest in Japan, is over two miles. The 351 bridges have a total length of 24,265 ft., built at an average cost of $85.09 per ft.

THE LARGEST YEAR'S business in the history of the Westinghouse Electric & Manufacturing Co. was done in the year ending March 31, 1911. The report states that the gross earnings were $38,113,312 and the cost $32,510,547, leaving a net manufacturing profit of $5,608,765. Other income was $1,515,532, and deductions for interest, depreciation of plant, etc., were $2,243,191, making the year's surplus $4,881,106. The gross earnings exceed those of the preceding fiscal year by $8,870,630, and were greater by $5,093,072 than those of the best previous year in the company's history. Dividends were paid totaling $829,795, including 7% on the preferred stock and a balance of 8⅝% accumulated unpaid in recent years. The business taken by the company in the last two months of the fiscal year, and since its close, compares unfavorably with the same months in 1910. Unfilled orders, March 31, totaled $7,616,058, as against $11,256,196 on the same date last year. The agreement between the company and the General Electric Co., made March 31, 1896, whereby for a period of 15 years each company licensed the other under the patents controlled by it, with provision for the payment of royalties, will not be renewed.

ONE MILLION DOLLARS a day is the record that will be established throughout the United States as the expenditure for improving and maintaining public roads. Never before in the history of the country has there been such interest in the improvement of highways, and with the Legislatures of the States appropriating millions of dollars for this purpose, the good roads movement has received its greatest impetus since the foundation of the Republic. The money that will be expended on the roads of this country during the next six months will be more than ever before in the same period of time. In 1904, the total expenditure for the construction and maintenance of roads and bridges in the United States amounted to about $80,000,000, but the expenditure for this purpose in 1911 will aggregate about $140,500,000. Exclusive of Sundays and legal holidays, the outlay for roads will amount to $1,000,000 a day during the present road-building season. This includes all money raised by local taxation, bond issue, State appropriations and private subscriptions.

Every State in the Union seems at last to be thoroughly aroused to the benefits derived from investments in improved highways. In California, the State has issued $18,000,000 in bonds with which to build a system of State highways. This work will begin during the present session. In the State of Connecticut, about $2,500,000 will be expended this year out of the State treasury for trunk-line and State-aid roads. Of the $5,000,000 bond issue recently authorized in Maryland, over $1,250,000 will be available this year for trunk-line and State-aid roads. Massachusetts will expend from revenues over $1,000,000 for the construction and maintenance of State roads. It is expected that at least $5,000,000 will be expended on State-aid roads and on trunk-line systems in the State of New York, in addition to $7,000,000 already raised by local taxation. More money is being devoted to road improvements in New York than in any other State in the Union, and the percentage of improved roads in that State has increased from 7.9% in 1904 to 60% in 1909.

Over $2,000,000 is available in North Carolina from the bond issues in the various counties for road improvement this year, and the Legislature has authorized the construction of a road from the Atlantic Ocean to the Tennessee line, a distance of 425 miles. In 1910, thirty counties in Ohio voted $2,500,000 in bonds to be expended this year. Ohio will also expend about $700,000 from State revenues for road improvement. In Pennsylvania, the State-aid appropriation will probably amount to over $1,000,000, and a $50,000,000 bond issue is being considered. Various counties in Tennessee will expend $1,500,000 from bond issues. Over $1,500,000 will be expended from bond issues in various counties in Texas. In Virginia, $2,500,000 has been authorized by various counties, to be expended this year; while over $250,000 has been appropriated in the States of Wisconsin, in accordance with the State-aid system. The prospect for a complete system of public roads throughout the United States is better now than ever before in the history of the country, and a uniformity of recent good road laws gives promise that this country will eventually take its place with France in having the most sensible system of road supervision and maintenance.—Logan W. Page, U. S. Director of Public Roads, in "Boston Transcript."

Readers' Wants

If you are in the market for material, equipment or supplies, and fail to find it in our advertising pages, send us full particulars, and we will gladly put you in touch with the right parties.

The Vacuum Process Renting Co., 2628 Broadway, New York, would like to hear from manufacturers who would figure on building a hand vacuum cleaner made of tin, wood and steel. Either those who can furnish a complete machine or make parts to be assembled later are invited to correspond.

TRADE PUBLICATIONS.

ROCK CRUSHERS.—The T. L. Smith Co., Majestic Bldg., Milwaukee, Wis. Paper; 6 × 9 ins.; pp. 15; illustrated.

This catalog includes not only rock crushers of both jaw and gyratory types, but also portable conveyors, screens and bins for road making outfits.

TARVIA ROAD SURFACING.—The Barrett Mfg. Co., New York City. Paper; 9 × 6 ins.; pp. 16.

This pamphlet contains a short description, illustrated by several excellent halftones, of the methods of applying Tarvia to macadam roads.

WINDMILLS, TANK FIXTURES, SIGNAL APPARATUS.—U. S. Wind, Engine & Pump Co., Batavia, Ill. Cloth; 5½ × 8 ins.; pp. 180; illustrated.

This little book is very handy in size and will be welcomed by the railway maintenance-of-way engineer and structural designer as well as the purchasing agent, for it contains several useful tables such as the number of hoops required for tanks of different diameters and lengths, price lists and capacities of wood tanks, cost of tank roofs for tanks of different diameters, capacity of tapered tanks, sizes and capacities of pumps, etc., etc. The whole is provided with an excellent index.

ASPHALT MACADAM ROADS.—The American Asphaltum & Rubber Co., 600 Harvester Building, Chicago. Paper; two pamphlets; 5 × 8 ins., pp. 38; 5¾ × 8½ ins., pp. 13; illustrated.

The first of these pamphlets deals with the advantages of good roads, and with the use of the company's Pioneer road asphalt for securing good roads. Specifications are given for making asphalt macadam roadways by the penetration or pouring method, the asphalt being applied after the laying of the stone. There are numerous illustrations of roads built in this way. The second pamphlet is a reprint of a paper read before the Michigan engineering Society on asphalt macadam paving and the success of the above method of applying the asphalt binder.

ELECTRIC MOTORS.—General Electric Co., Schenectady, N. Y. Miscellaneous bulletins. Paper; 8 × 10½ ins.; illustrated.

Bulletins 4817 and 4822 describe a 75-HP. and a 50-HP. railway motor, respectively. In the 75-HP. type, the design provides for interpoles to assist commutation. The 50-HP. type is of familiar construction.

In Bulletin 4806, the company has described and pictured, in alluring form, its line of electric fans to be sold in the hot weather of 1911. These fans are made for alternating or direct current in all sorts of styles and sizes.

In a little pamphlet (B-3075) is briefly described the company's mercury arc rectifier as used for charging the batteries of small electric automobiles.

In Bulletin B-3038, the various uses of electric motors to lighten farm labor are described, and several fancy installations are pictured. The bulletin is divided into brief chapters, each covering a specific use for electricity on the farm.

In Bulletin 4815 are set forth the advantages to be derived from the application of electric motors to machine tools. The bulletin gives a slight intimation of the increased production, economy of power, ease of control and reliability which may be secured where individual drive is possible. The bulletin also describes and pictures direct and alternating current apparatus for drills, saws, shapers, milling machines, slotters, planers, lathes, etc.

CLEARANCE IN THE AMMONIA COMPRESSOR: A DISCOVERY.—De La Vergne Machine Co., Foot East 138th St., New York City. Paper; 8 × 12 ins.; p. 7.

CLEARANCE AND ITS EFFECT ON THE VOLUMETRIC EFFICIENCY OF AMMONIA COMPRESSORS. By V. R. H. Greene. Reprinted from "Cold Storage and Ice Trade Journal," December, 1910. De La Vergne Machine Co., New York City. Paper; 6 × 9 ins.; pp. 12.

These two pamphlets are intended to prove that in the design of ammonia compressors for refrigerating plants a moderate amount of clearance is advantageous. The discovery referred to in the first pamphlet is defined as follows:

A small amount of clearance can be regulated to leave enough compressed gas at the end of each stroke to re-expand and produce sufficient cooling effect to practically eliminate the heat given to the heads, ports and valves by the hot discharge. The weight of gas which enters the compressor will, consequently, be more than with no clearance.

This statement will probably be received with a great deal of doubt. It is based purely on theory, and the theory does not seem to stand the tests of examination. It is well remarked in the pamphlet that gas is a very poor conductor of heat. In a compressor here described, the actual percentage of clearance is less than 4% of the piston displacement. It can readily be understood that with this small amount of clearance there will be only a minute fraction of a second between the time when the piston reaches the end of its travel and its return to a point where the gas in the clearance space is re-expanded to a pressure which permits the suction valve to open. The only cooling effect which this re-expanding gas can have upon the heads, ports and valves must take place during this very short period of time, and, since the temperature of the expanding gas varies from full heat, due to compression at the beginning of the stroke, down to the temperature, due to the suction pressure when the suction valves open, it will be evident that the cooling effect of this re-expanding gas cannot be of any practical importance.

While the theory does not stand analysis, the practical conclusion that a moderate amount of clearance is not a serious defect in an ammonia compressor, or, for that matter, any other gas or air compressor, is entirely sound. It is quite likely that in the endeavor to obtain high theoretical excellence in reduction of clearance, other more valuable things have been sacrificed in compressor design.

MECHANICAL WATER FILTERS.—Hungerford & Terry, Inc., Philadelphia, Pa. Paper; 8 × 3¼ ins.; pp. 32; illustrated.

Mechanical and gravity water filters, both the pressure and the gravity type, designed exclusively for the filtration of water for manufacturing purposes, are described and illustrated in this catalog.

WOOD PIPE.—Pacific Tank & Pipe Co., Kenton Station, Portland, Ore. Paper; 4 × 8½ ins.; pp. 22; illustrated.

The advantages of redwood or fir stave, wirewound pipe for water conduit purposes are claimed to be many. These are briefly summarized in this catalog and numerous illustrations of large pipe lines which have been in successful operation for a number of years are given.

METAL WINDOW SASH.—David Lupton's Sons Co., Philadelphia, Pa. Paper; 8¾ × 11 ins.; pp. 36; illustrated.

Only a few installations of this company's specialties are shown in this catalog. The Lupton steel sash is made of low carbon rolled steel members; each member is a solid piece of metal. The illustrations contain several drawings of window and skylight details as well as half-tones of shop installations which will prove helpful to structural draftsmen engaged in shop design. Besides window sash for all purposes, this company also makes hollow metal windows, doors and all kinds of architectural sheet metal work.

FANS AND BLOWERS.—The Green Fuel Economizer Co., Matteawan, N. Y. Paper; 6 × 9 ins.; pp. 20; illustrated.

Low speed and standard speed planing mill exhausters are described in this catalog. It is claimed the best results in removing sawdust and shavings from lumber-working machinery is by large exhausters with relatively low velocities. The larger exhauster will consume less power, due to the more uniform velocity of the air in the pipe, and permit more of the suction head produced by the fan to be utilized at the intakes, than a high speed small exhauster where the high velocity of the air near the fan causes correspondingly greater resistance. It is further claimed that the slow speed fan is subject to much less wear and vibration than the high speed fan. These exhausters are built of heavy stock and are especially designed for heavy service.

DISTRICT STEAM HEATING.—American District Steam Co., North Tonawanda, N. Y. Bulletin 120, 121 and 122. Paper; 6 × 9 ins.; illustrated.

Bulletin 120, entitled, "Some of the Factors That Effect the Cost of Generating and Distributing Steam for Heating," is a reprint of a paper read by Mr. C. R. Bishop, M. Am. Soc. M. E., before the 1910 Convention of the National District Heating Association. It is a discussion of some of the precautions which a power plant manager must take to ensure most economical operation.

Bulletin 121 is also a reprint of a paper by Mr. Bishop entitled "The Development and Application of Central Station Heating," being a paper read before the Pennsylvania Electric Association in 1910. The title is self-explanatory.

The third bulletin is a reprint of a paper by Mr. Paul Mueller, entitled "District Steam Heating Plants." This paper summarizes the advantages of central-station heating service to the customer.

ELECTRIC POWER APPARATUS.—Fort Wayne Electric Works, Fort Wayne, Ind. Bulletins 1066, 1093, 1120 and 1126. Paper; 8 × 10½ ins.; illustrated.

The first bulletin describes a single-phase prepayment type of induction watt-hour meter for measuring the energy supplied to single-phase circuits and for securing cash in advance for the energy to be consumed. The bulletin also describes the electrical design and the tripping device which cuts off the current at the proper time.

The second bulletin is entitled "Small Motors and Their Applications." In it a line of apparatus is described particularly intended for domestic and small industrial services. There are four distinct types: (1) single-phase induction; (2) 110 and 220-volt direct-current shunt, series, and compound wound; (3) series-wound commutator (1/100 to 1/150-HP.) for alternating and direct-current, and (4) series-wound of 1/100 to 1/50-HP. for direct current only.

The third bulletin describes the so-called electric rock drill, which is a rotary-hammer type operated by an electric motor mounted on the frame of the drill. The mechanism consists of two parts—a revolving helve containing two hammers and a chuck for holding and rotating the steel drill.

The last bulletin describes a line of alternating and direct-current fans for the hot weather season of 1911.

For other Proposal Advertisements see pages

49, 50, 51, 52, 53. 54

of Advertisements a d Construction News, page 314

RAILWAY CONSTRUCTION.

THE ALGOMA CENTRAL AND HUDSON BAY RAILWAY COMPANY.

Sealed tenders for the construction of the Algoma Central Railway extension from Hobon, on the C. P. R., northerly to the National Transcontinental Railway at a point approximately 142 miles West of Cochrane, a distance of 101 miles, will be received up to noon, July 15th, 1911.

The work includes all construction work to sub grade and in addition, track laying and ballasting in accordance with plans, profiles, Forms of Tender and Specifications at the Office of the Chief Engineer, Sault Ste. Marie, Ontario.

All tenders to be marked "Tender for Construction," and to be addressed to R. S. McCormick, Chief Engineer, Algoma Central Railway, Sault Ste. Marie, Ontario.

The lowest or any tender not necessarily accepted.

TRUNK SEWERS.

Nashville, Tenn.

The Board of Public Works of Nashville, Tennessee, will receive and open sealed bids at its office, City Hall, on Thursday, August 10th, 1911, at 3 P. M., for building about seven miles of circular brick trunk sewers, ranging in sizes from thirty (30") inches to one hundred and eleven (111") inches in diameter. Certified checks on reputable banks, payable to the order of said Board, required to accompany all bids as earnest money, as stipulated in the specifications. Satisfactory bond for faithful performance of contract, as stipulated by law, required and twenty (20%) per centum retained upon partial estimates until the completion of the work. Bids will be received separately for the several sewers and as a whole for the entire work. Said Board reserves the right to reject any or all bids. Plans and profiles can be seen at the office of the City Engineer, City Hall, Nashville, Tennessee, and specifications and proposal blanks can be had upon application at said office either by mail or in person, from and after July 1st.

Bids must be made upon said proposal blanks and sealed and addressed to the Board of Public Works, Nashville, Tennessee, and plainly marked "Bid for Trunk Sewer."

This work includes about eighty-one thousand (81,000) cubic yards of both earth and rock excavation and about thirteen million (13,000,000) brick.

By order of the Board of Public Works.

WM. W. SOUTHGATE,
City Engineer.

PIPE LINE.

Columbus, O.

Sealed proposals for furnishing the labor and materials, except as specified in Section 2, for laying cast iron force mains and appurtenances in Sandusky, Scott and Grubb Streets and under the Scioto River, in Franklin Township and in the City of Columbus, Franklin County, Ohio, for the division of water, addressed to the Director of Public Service of the City of Columbus, State of Ohio, and endorsed, "Proposals for West Side Force Main, Contract No. 22." will be received by said Director until 12 o'clock noon (standard time) of July 17, 1911, in accordance with the plans and specifications on file in the office of said Director, in the custody of W. W. Jackson, Supt. of Water Works, City Hall, and from whom copies may be obtained.

Proposals shall be made upon blank forms, which shall be obtained from the said Supt.; shall be sealed and filed with the Secretary of the Department of Public Service, Columbus, Ohio, before 12 o'clock noon (standard time), of July 17, 1911, at which time they will be opened by him and publicly read.

Each proposal shall contain the full name of every person, firm or corporation interested in the same (this is mandatory under the law) and address of the person, firm or the president and secretary of the corporation bidding, and shall be accompanied by a bond with surety or sureties satisfactory to the Director of Public Service, which surety or sureties shall be either persons resident of Franklin County, Ohio, a resident or non-resident surety company, or by a certified check on a solvent bank of Columbus, Ohio, for the amount of Two thousand ($2,000) dollars, said bond to be given in favor of the City of Columbus, Ohio, or check drawn payable to the order of David A. Jones, Clerk of the Department of Public Service, Columbus, Ohio, and which shall be forfeited if said bidder fails to enter into a contract with the City of Columbus, Ohio, and furnish the required bond, within ten days after the notice of acceptance of his proposal, if the award is made to said bidder. The bonds or checks or the amounts of said checks of all unsuccessful bidders will be returned on demand, and the bond or check, or the amount of said check, of the successful bidder, upon the execution of the contract and the furnishing of the required bond.

A bond in the sum of fifty (50) per cent. of the amount of the contract, with satisfactory sureties, will be required for the faithful performance of the work.

All bids will be compared on the basis of the Preliminary estimate of the quantities of work to be done, as follows:

CONTRACT NO. 22.

West Side Force Main.

Item 1.	Wet excavation....	2,100 cu. yds.
Item 2.	Dry excavation.....	4,500 cu. yds.
Item 3.	Laying 36" c.-i. pipe	3,800 lin. ft.
Item 4.	Laying 24" c.-i. pipe	30 lin. ft.
Item 5.	Laying 16" and 12" c.-i. pipe.....	60 lin. ft.
Item 6.	Laying 6" c.-i. pipe.	70 lin. ft.
Item 7.	Concrete	250 cu. yds.
Item 8.	Brick masonry.....	25 cu. yds.
Item 9.	Setting air valves..	5
Item 10.	Twisted steel rods.	2,700 lbs.
Item 11.	Manhole steps and tie-rods	760 lbs.
Item 12.	Iron castings.....	7,400 lbs.
Item 13.	Removing and relaying cement sidewalks	1,000 sq. ft.
Item 14.	Removing and relaying brick pavement	90 sq. yds.
Item 15.	Removing and relaying macadam...	80 sq. yds.
Item 16.	Resetting curb....	30 lin. ft.

The quantities are approximate, being given only as a uniform basis for comparison of bids, and the City of Columbus reserves the right to increase or decrease the amount of any class or portion of the work as may be deemed necessary.

In the proposal shall be stated separately for each item, the price bid for the labor, and the price bid for the material (mandatory under the law), and also the total.

The Director of Public Service reserves the right to reject any or all bids.

H. S. HOLTON, Director.

Attest: DAVID A. JONES, Clerk.

WAR DEPARTMENT, Office of Constructing Quartermaster, U. S. A., 263 Summer St., Boston, Mass., June 24, 1911.—Sealed proposals, in triplicate, will be received at this office until one o'clock P. M., July 14, 1911, and then opened, for the construction, plumbing, heating, electric wiring and fixtures of an addition to post hospital at Fort Strong, Boston Harbor, Mass. Plans can be seen, and specifications, blank forms and full information furnished upon application at this office. Plans can also be seen at the office of the Chief Quartermaster, Department of the East, Governor's Island, N. Y. Harbor. The United States reserves the right to reject any or all bids. Deposit of $5.00 required as guarantee for safe return of plans. Envelopes should be endorsed "Proposals for Addition to Post Hospital, Fort Strong, Mass.," and addressed to CAPT. A. M. MILLER, Constructing Quartermaster, U. S. A., Boston, Mass.

OFFICE COMMISSIONERS, DISTRICT OF COLUMBIA, Washington, June 26, 1911.—Sealed proposals will be received at this office until 2 o'clock p. m., July 7, 1911, for laying cement sidewalks in the District of Columbia. Forms of proposal, specifications and necessary information may be obtained from the Chief Clerk, Engineer Department, Room 427, District Building, Washington, D. C. CUNO H. RUDOLPH, JOHN A. JOHNSTON, WILLIAM V. JUDSON, Commissioners, D. C.

U. S. ENGINEER OFFICE, Jones Building, Detroit, Mich., June 29, 1911.—Sealed proposals for furnishing and delivering at Sault St. Marie, Michigan, about 380 tons of steel, etc., for Lock Construction, will be received at this office until 3 p. m., August 1, 1911, and then publicly opened. Information on application. C. McD. TOWNSEND, Col., Engineers.

LAYING WATER PIPE.

City of Pit[illegible]ld, Mass.

Sealed bids or proposa[illegible] for laying water pipe in the City [illegible] Pittsfield, Mass., addressed to the [illegible]k of the Board of Public Works [illegible] endorsed "Proposal for Laying Wa[illegible] pipe. Section 2," will be received a[illegible] office of the Board of Public Work[illegible]y Hall Pittsfield, Massachusetts, [illegible] o'clock p. m., Monday, the [illegible] day of July, 1911. At the above p[illegible] and time the bids will be publicly [illegible] and read.

Each bid must be accom[illegible]d by a certified check drawn upon [illegible] national bank or trust company e[illegible] in Pittsfield, Boston or New [illegible]rk, for twelve hundred and fifty dolla[illegible] ($1,250). A bond in the sum of fifte[illegible] thousand dollars ($15,000) will be requ[illegible]d for the faithful performance of the c[illegible]ract.

Pamphlets containing infor[illegible]tion for bidders, form of proposal, c[illegible]ract and specifications will be mailed [illegible] contractors who apply to the Engi[illegible] of the Board of Public Works, or [illegible] be obtained at his office or at the office of Hiram A. Miller, Consulting E[illegible]neer, 8 Beacon Street, Boston, Mass. The plans may be seen at either office.

The principal item of work is laying about 10,400 feet of twenty four-inch cast-iron pipe. The printed form must be used in making bids. The right is reserved to reject any or all bids or to accept any bid.

WM. H. SWIFT, Chairman; ARTHUR H. RICE, EDWARD A. JONES, DANIEL ENGLAND, Committee on Water Supply; A. B. FARNHAM, Engineer Board of Public Works.

BRIDGE.

Massena, N. Y.

Sealed proposals, addressed to the Town Board, Massena, N. Y., and endorsed "Proposals for building a bridge in the town of Massena, St. Lawrence County," will be received by the Town Board at Massena, N. Y., until twelve o'clock, noon, on the 15th day of July 1911. At that time and place they will be publicly opened and reported. Copy of contract, specifications and plans may be obtained from B. S. O'Neill, Massena, N. Y., upon the deposit of $1.00.

U. S. ENGINEER OFFICE, Newport, R. I., June 24, 1911.—Sealed proposals for removing obstructions in Woods Hole Channel, Mass., will be received here until 2 p. m., July 25, 1911, and then publicly opened. Information on application. FREDERIC V. ABBOT, Col. Engrs.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., June 22, 1911.—Sealed proposals will be received in this office until 3 o'clock P. M., on the 4th day of August 1911, and then opened, for the construction, complete (including plumbing, gas piping, heating apparatus, electric conduits and wiring), of the United States Post-Office at Sulphur Springs, Texas, in accordance with drawings and specifications, copies of which may be obtained from the custodian of site at Sulphur Springs, Texas, or at this office, at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect.

Situations Open
(Or Vacant)

WANTED.—A Mechanical Engineer with technical training and experience in steam power plant design. Location, Chicago; give experience, references and salary expected. Address "H. A. 26," Engineering News, New York. 26-1t

WANTED.—Two first class all round structural draftsmen with general experience. Good position open to capable men. Address "K. A. 26," Engineering News, New York. 26-1t

WANTED—Experienced granite quarrymen and quarry foreman. PICTON ISLAND RED GRANITE CO., Clayton, N. Y. 26-1t

WANTED — Hydraulic engineer, familiar with the designing of presses, etc. State experience and salary expected. Give references. Address "F. A. 26," Engineering News, New York. 26-1t

Your Proposal Notices In Engineering News
Reach the Largest Circulation in the Civil Engineering and Contracting Field

In this Issue: Railway Freight Station with Equipment for Mechanical Handling, N., K. & T. Ry., St. Louis—By-Pass Dam, N. Y. Barge Canal, Waterford—Steel Forms for Concrete Breakwater Construction—Index to Vol. 65.

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27, 30, 33, 36, 39 and 42-inch
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Cube Mixers
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For Factories and Industrial Buildings
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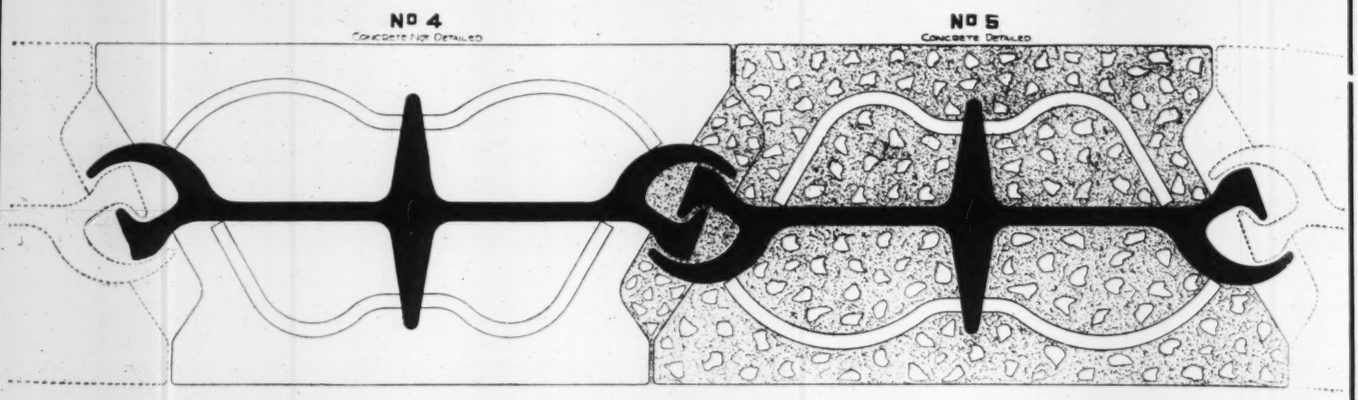
Lackawanna Steel Sheet Piling



NOTE: Nos. 4 and 5 show two full-size interlocked sections of 15-inch Steel Sheet Piles, protected on both sides by a 4½-inch concrete facing. In No. 4 the concrete is not filled in, in detail. In No. 5 and Grouting Pockets the Concrete and Grout is shown detailed in section.

CENTER FLANGED SECTION OF PROTECTED LACKAWANNA STEEL SHEET PILING

A revised section of Lackawanna Steel Sheet Piling, designed for special use, is shown in accompanying cut and illustration. This is known as Center Flanged Section. It is 15 in. wide and has ½ in. web, the same as Standard Sections with a double flange right angle reinforcement, 6 in. deep, at center of web to give greater resistance against side bending, and adds to its columnar strength. This Section is intended specifically for permanent construction, such as docks, sea walls, bulkheads, revetments; also for core-walls and curtain-walls, for dams, and all classes of foundation. The flanges are drilled for tie rods and concrete permanently bonded directly to and driven with the Piling. The concrete (overall measurement) is 9 in. to 12 in. The cut herewith shows 9 in. width of concrete. In the illustration, there is a view of a 20-ft. length of the Piling showing in general the shape into which concrete is moulded on sides of the steel shape with a section of concrete cut away, exposing three tie rods. At the foot end, that goes into the ground, a short length of the steel section is left uncovered, forming a cutting edge, and the concrete made wedge shape to facilitate driving. At the head end, there is also a short length left for receiving a driving cap to protect the concrete from impact of hammer blows. The concrete has dovetailed shoulders to receive and securely hold the top finish.

A model wall is shown which is made up of piling as above described. The steel joints lock together the same in protected piling as in ordinary standard shapes. After the piles are driven all interlocking pockets are filled with grout and finishing concrete cap moulded in place, completely covering and fully protecting all steel parts against rust or deterioration from any cause. Samples of this protected piling have been subjected to hard driving and afterward withdrawn to examine condition. It was found in every case that concrete remained perfectly sound in every particular. There were no cracks or crumbling or disturbance of any kind in the bond between concrete and metal surfaces.

This piling affords a means of most rapid construction in smallest space. No excavation is required for sub-foundation. Both sub-structure and superstructure are embodied in one piece and all work carried to completion from the surface. The Protected Steel Sheet Piling, properly made and installed, provides the strongest and most enduring wall or foundation that has ever been devised.

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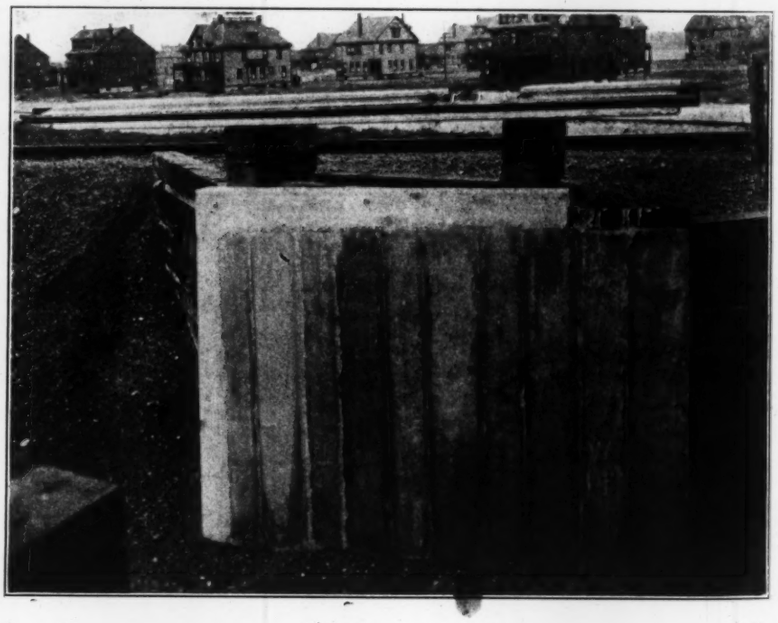

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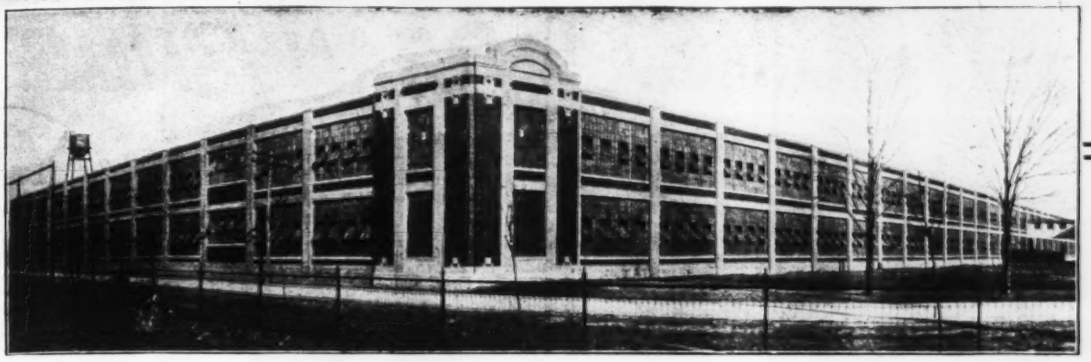

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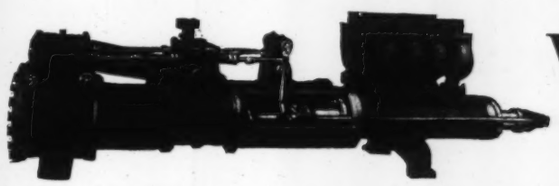

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In the selection of suitable machinery for handling water under heavy pressure, it is of the utmost importance that the quality and design of the pumps be given precedence over the first cost.

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The **Pulsometer** requires no special foundations ?

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The **Pulsometer** requires no lubrication ?

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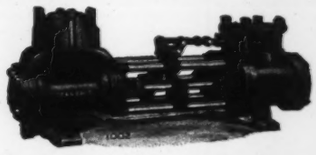
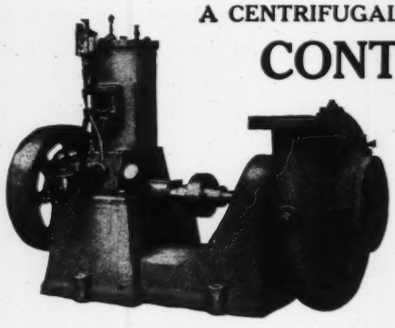


We Build DURABLE PUMPING MACHINERY for Every Service

A CENTRIFUGAL PUMP FOR CONTRACTORS



This pump, direct connected to a high grade gasoline engine, is rapidly finding favor with contractors. Its principal features, reliable operation and portability, make it hard to beat for draining excavations. Built in 4 to 10 inch sizes, with 10 to 30 foot lift. *Write for further particulars.*

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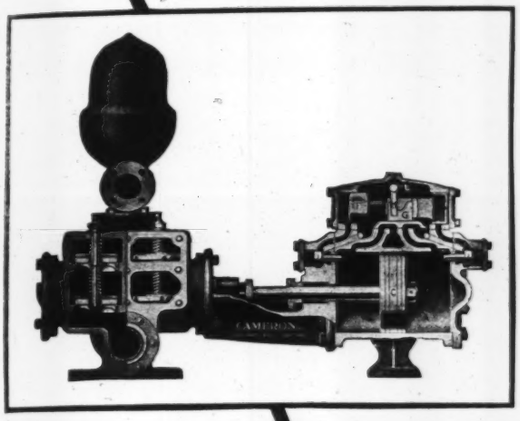

¶ The fewer number of parts a steam pump has, the less there is to get out of order and to consume power. Repairs are lessened—maintenance *costs* are *reduced*.

¶ That is the reason for the Cameron Pump's remarkable record of *durability* and *economy*, even under the most unfavorable conditions.

¶ For it has a fewer number of working parts than *any* other steam pump made, and they are stronger, better and more reliable.

¶ Consider what this means to your plant, where every breakdown involves delay, which is always expensive.

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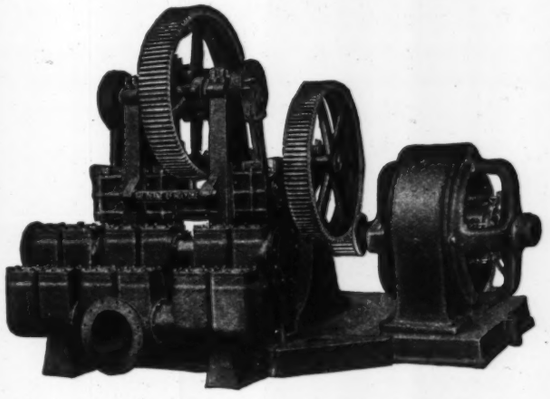

No matter what your pumping need may be we have a pump of quality to satisfy it.

But *whatever* its purpose you can be certain of this: that into *every* Deane pump is built the high standard of quality that has made the Deane line famous.

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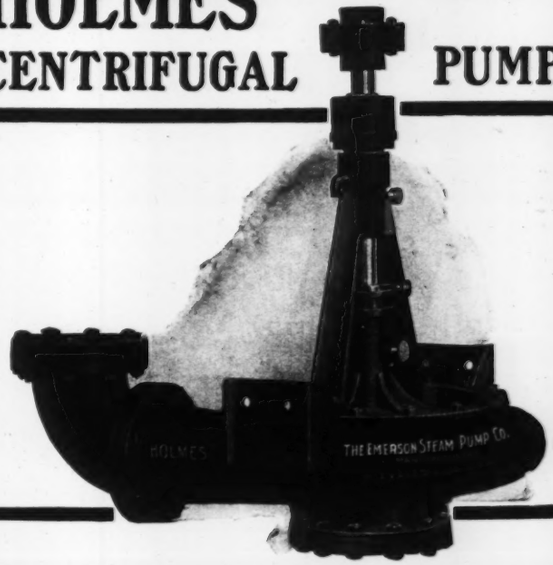

We have perfected a pump of the *Open Impeller* type that overcomes all the defects of the Enclosed Impeller type. The "Holmes" gives, under all conditions, an efficiency at least as high as that produced by the Enclosed Impeller type, and is more economical and liable to less wear and tear. To the man "who pays the bills" we will say that we are selling them at prices as low as the lowest charged for first class pumps of similar capacity and head, and much lower than the prices asked for some so-called high class, though very inferior pumps. Send us your requirements and let us figure with you.

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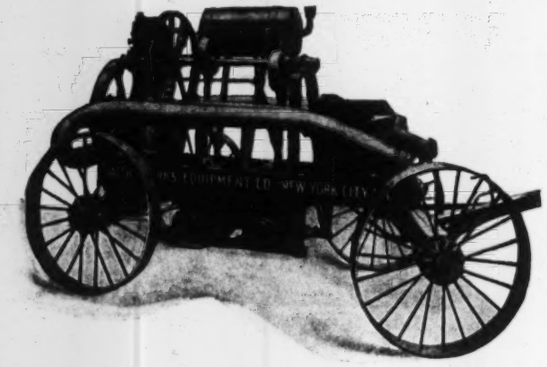
ALEXANDRIA, VA., U. S. A.

This Portable Pumping Outfit



—**has a capacity** of 14,500 gallons per hour on an 18 ft. lift and will operate on a 28 ft. lift.

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—**requires no licensed engineer** or other skilled labor.

—**is made for hard usage.** The truck is of steel with metal wheels having a 5 inch tire. Equipped with drop tongue for hauling with horses.

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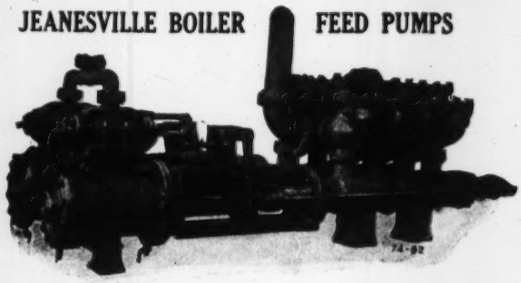

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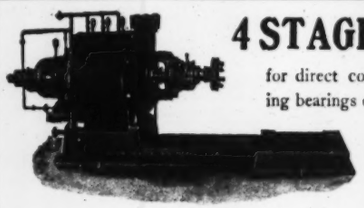

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for direct connection to motor, with ring oiling bearings on each side of pump, renewable diffusions, water-sealed stuffing box and flexible coupling.

Capacity 600 gallons per minute 500 foot head.

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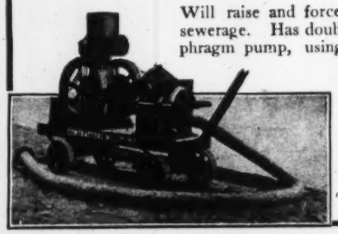

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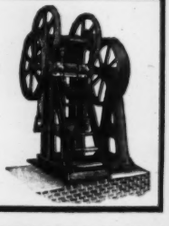

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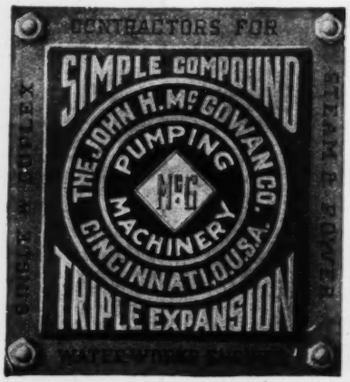

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will handle Sand, Mud, Gravel, Sanitary Deposits and anything limpid enough to flow, without clogging or injury. *Send for Descriptive Catalog.*

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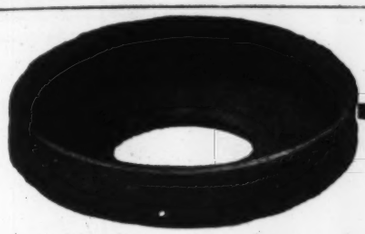

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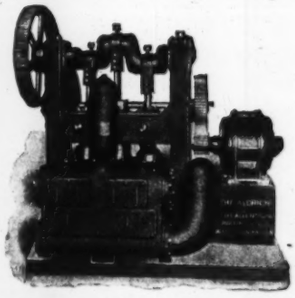

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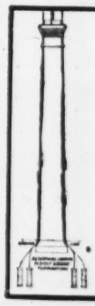

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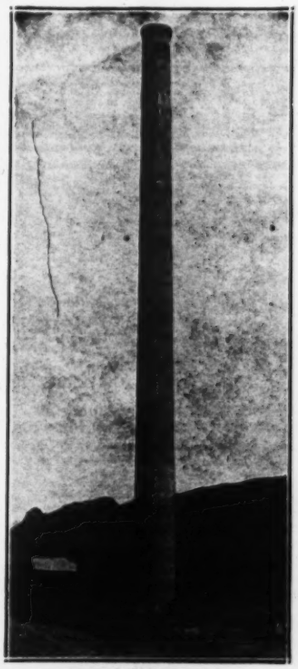

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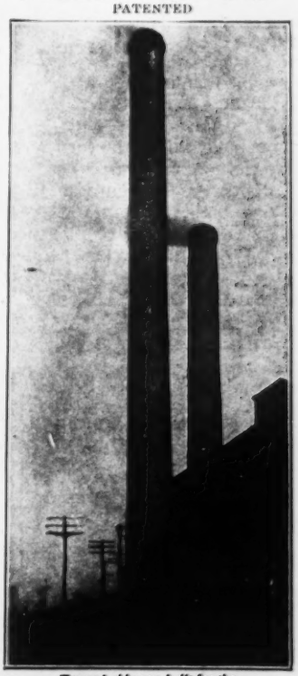

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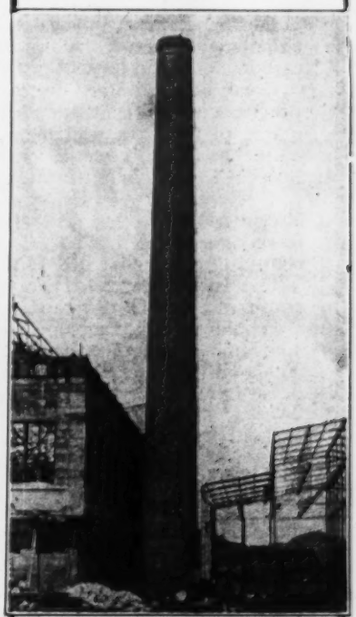

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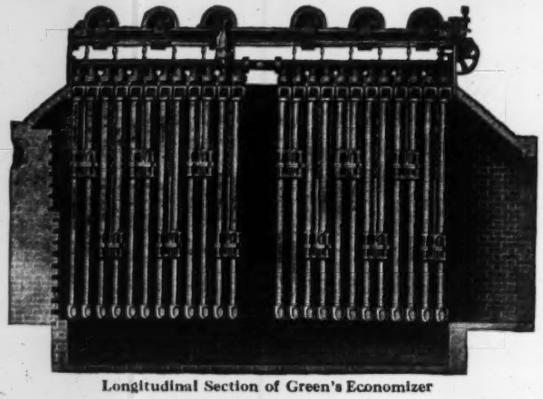

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How Much Heat From Your Coal?

If you do not happen to have a chemical analysis or calorimetric test of the coal, its heating value can be quite closely approximated by the following method:

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Green Fuel Economizer Data Sheet

Percentage of fixed carbon in dry coal free from ash.	Heating Value per pound of dry coal free from ash.
100	14590
95	15120
90	15500
85	15700
80	15800
75	15780
70	15610
65	15300
60	14780
55	13880

This method of estimating heating values is, however, only roughly approximate, especially with coals having less than 60% fixed carbon.

The percentage of heat wasted is then $H = 0.36 \frac{T-t}{K}$ wherein H is the heat loss in percent. of the total heat of the fuel, T is the temperature of the gases leaving the boiler in degrees F., t the temperature of the atmosphere in degrees F, and K the carbonic acid gas content of the chimney gases in percent.

K can be determined directly if you have a CO_2 meter, or otherwise if you can estimate the amount of air burned per pound of fuel. In well managed plants the percentage of CO_2 runs from 12 to 14%, which corresponds to about 20 lbs. air per lb. coal. In most plants it is less, often as low as 5%.

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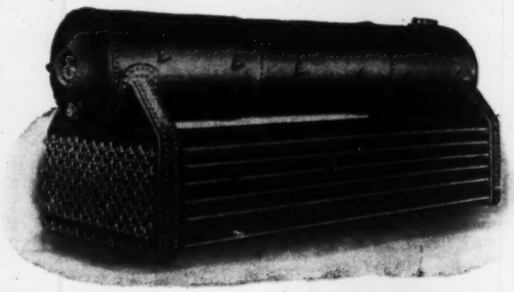

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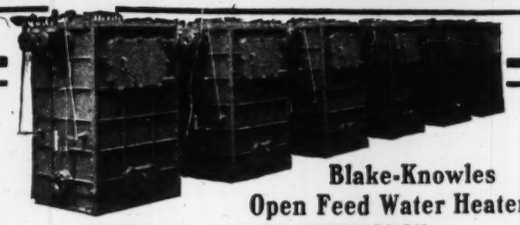

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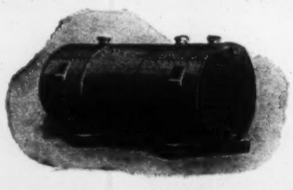

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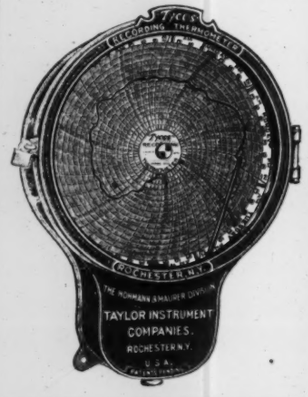

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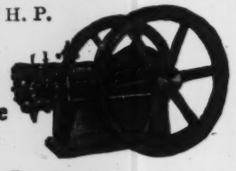

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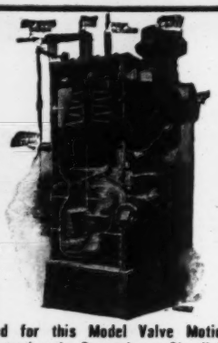

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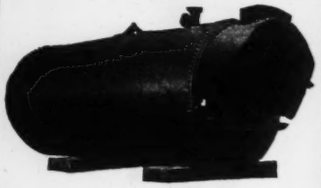

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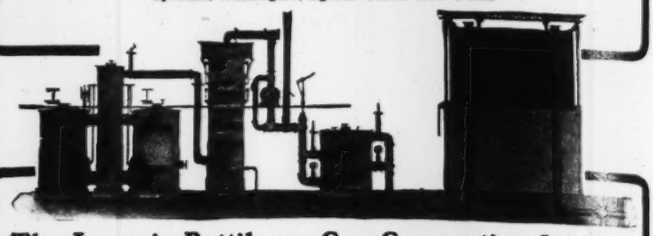

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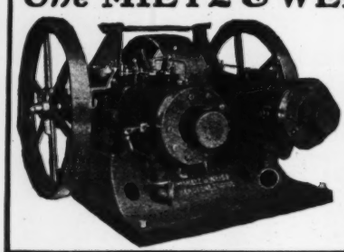

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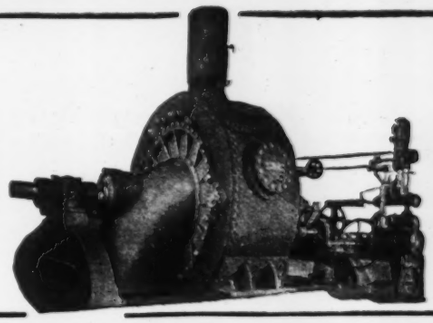

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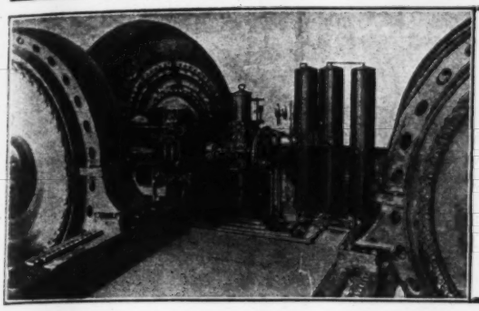

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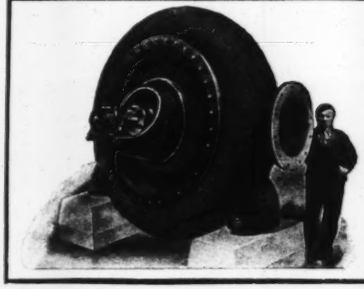

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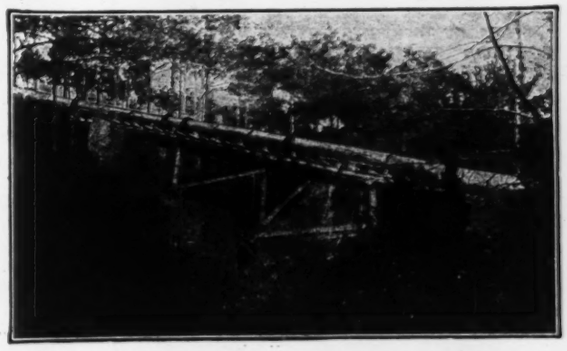

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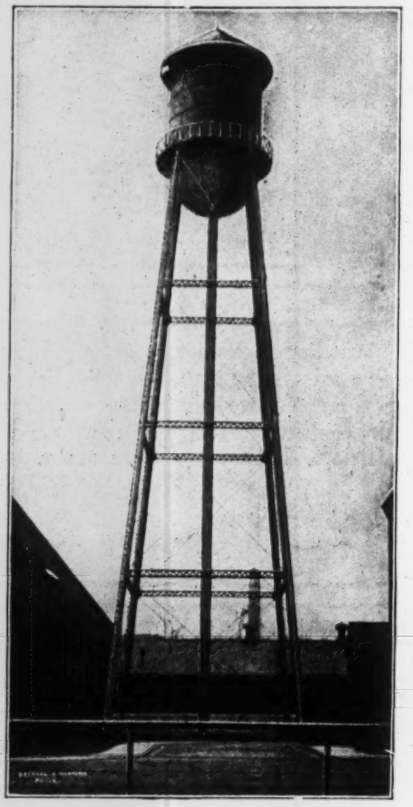

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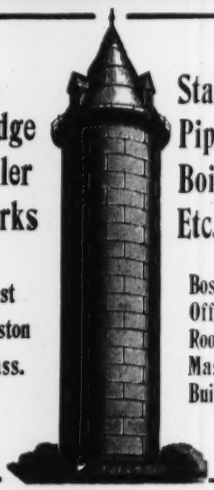

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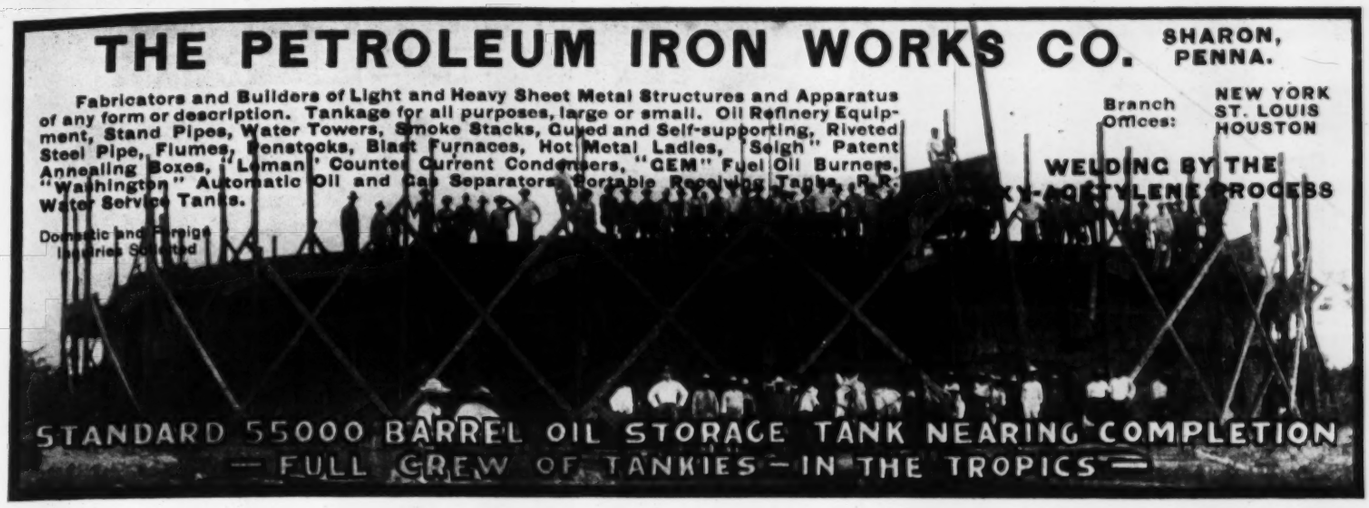

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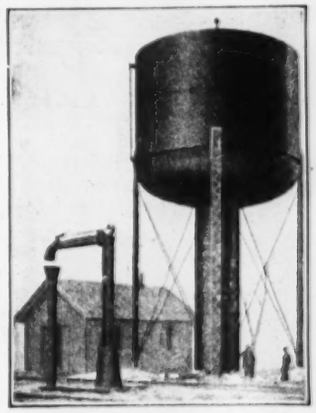

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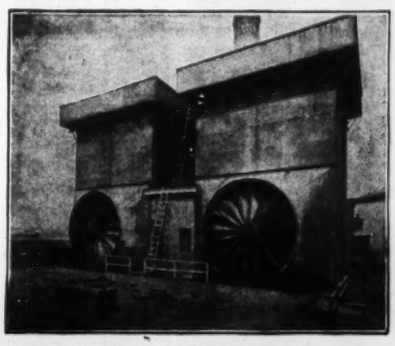

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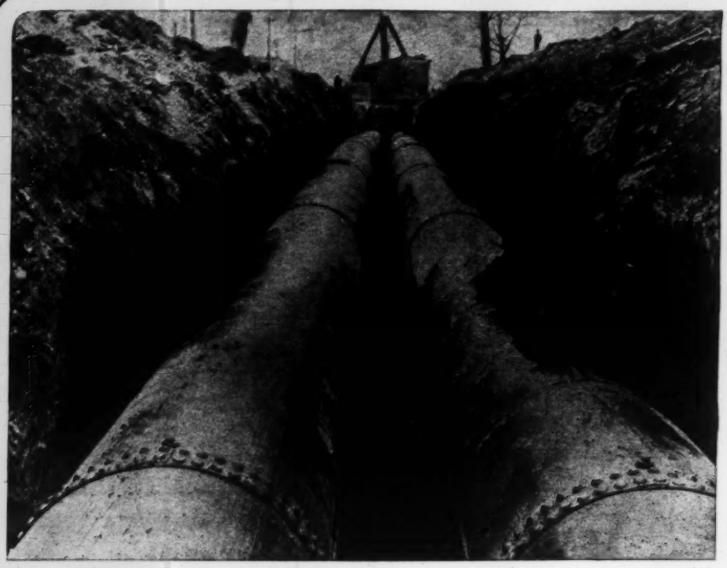

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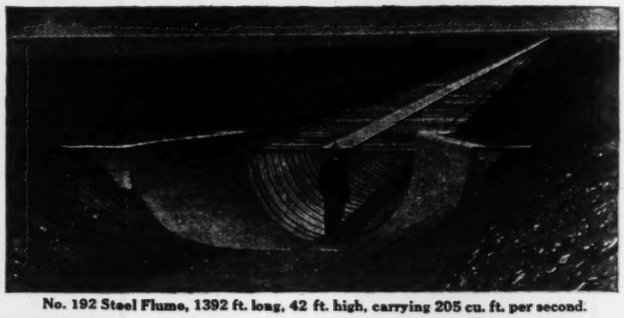

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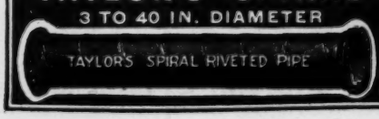

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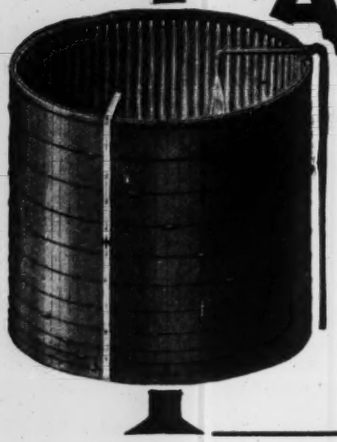

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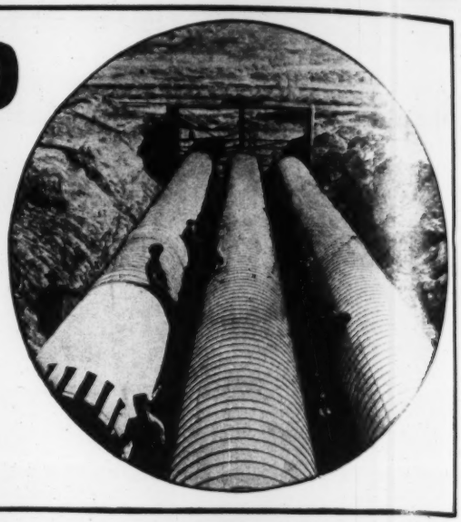

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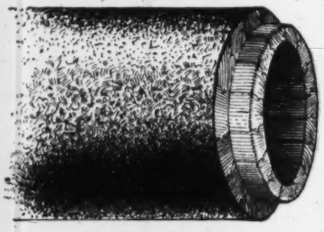

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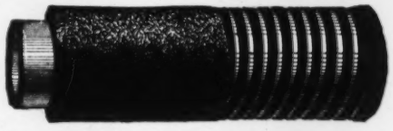

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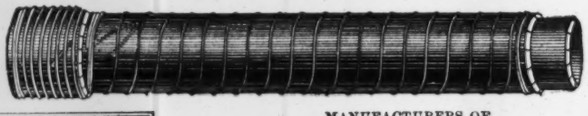

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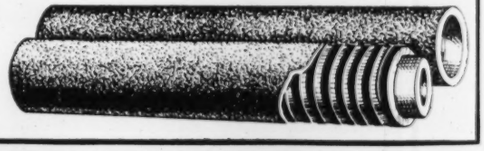

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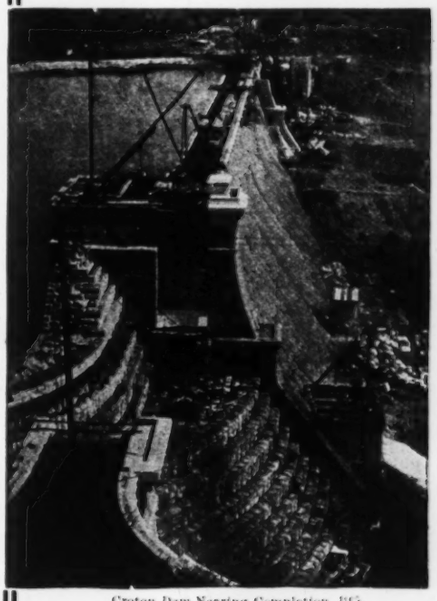

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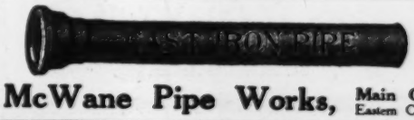

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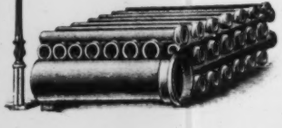

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No Large Pulleys and Tight Belts Needed with This

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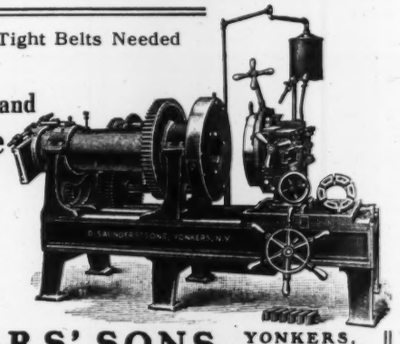

The power of the machine is in the arrangement of the gearing.

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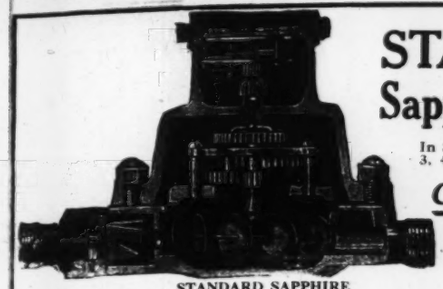

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In Sizes ⅝, ¾, 1 Inch, 1½, 2, 3, 4, 6, 8, 10 and 12 Inches

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1. They cannot become stopped up or registration retarded from any sand or sediment the water may contain.
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7. STANDARD SAPPHIRE METERS ARE BUILT LIKE A WATCH, JEWELED BEARINGS, insuring minimum wear and accurate anti-frictional adjustment, so that readings are as perfect as it is possible to obtain under any conditions. Write us.

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The Cook Well Co.

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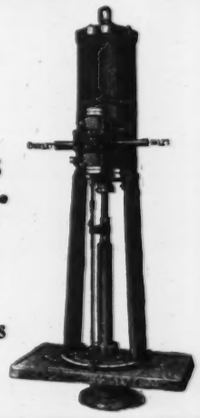

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Send for Catalogue 12-B, if interested

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Fig. 212 48 inch Circular Rising Screw Sluice Gate.

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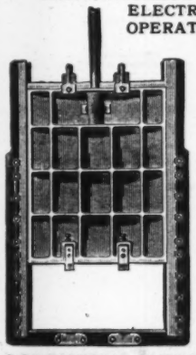
SLUICE GATES

Any Size Any Style
HAND, HYDRAULIC OR ELECTRICALLY OPERATED



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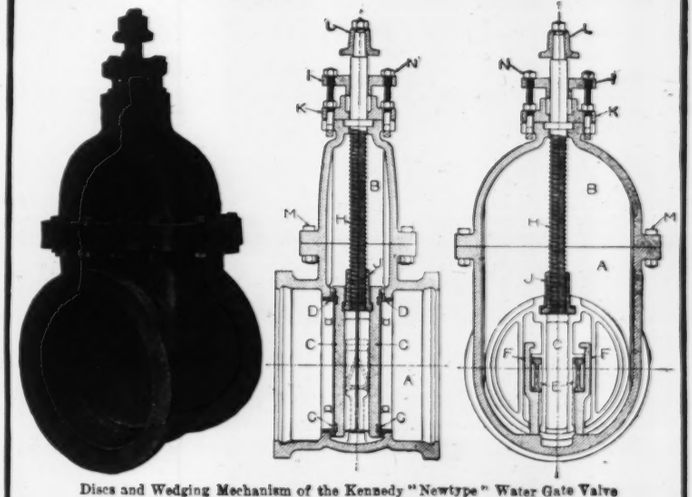
290 Terrace BUFFALO, N. Y.
Established 1892

The "Newtype" Water Gate Valve



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Does Not Lock, Stick or Leak

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Shows *how* to do it right Price, $1.00

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For Steam and Water

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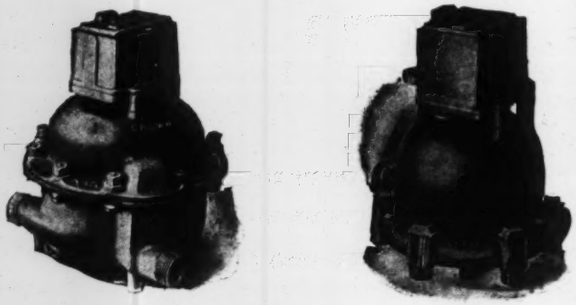

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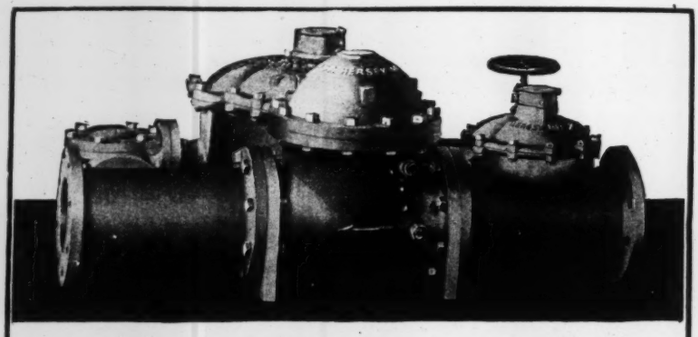

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Which Registers All Large Flows
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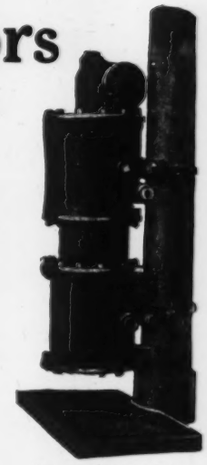

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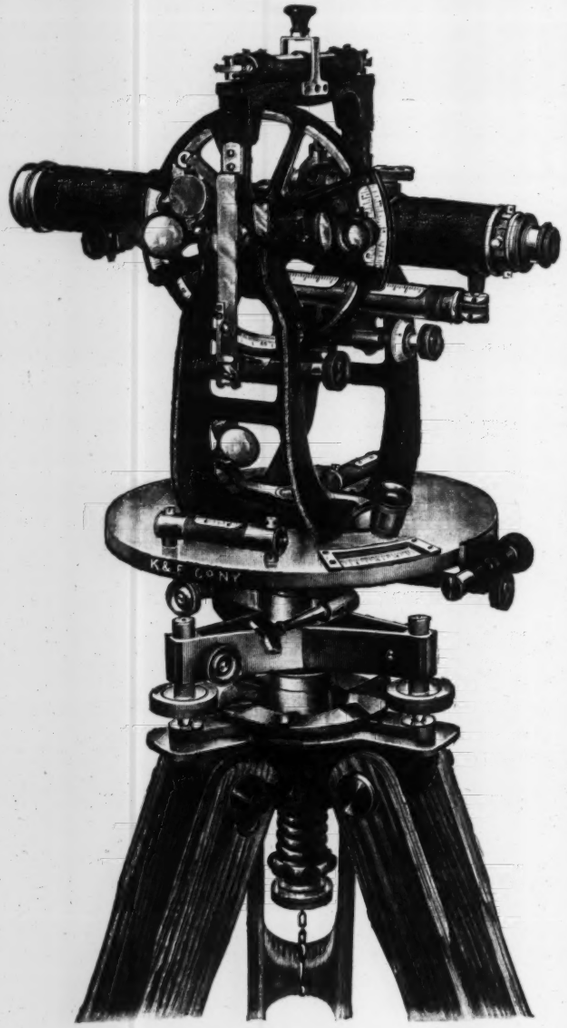

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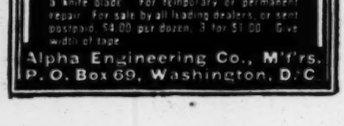

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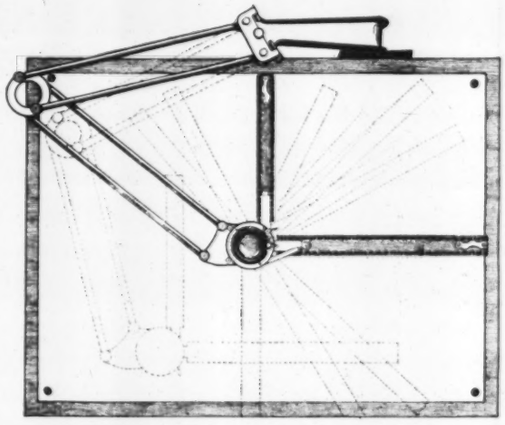

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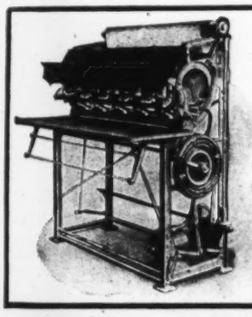

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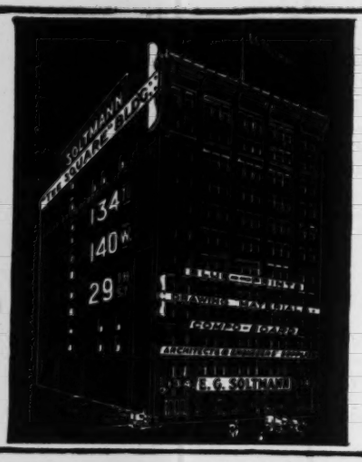

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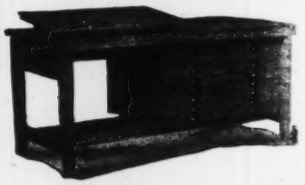

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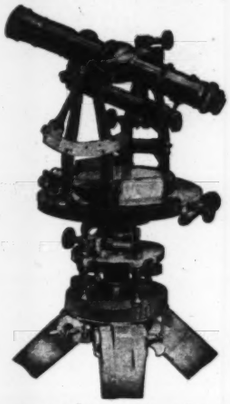

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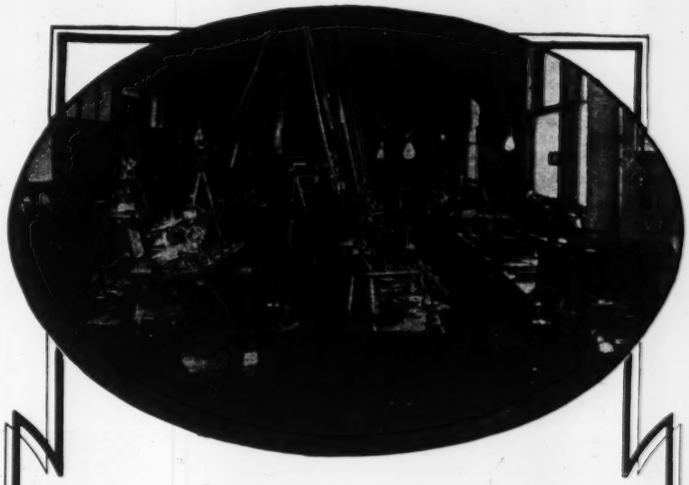

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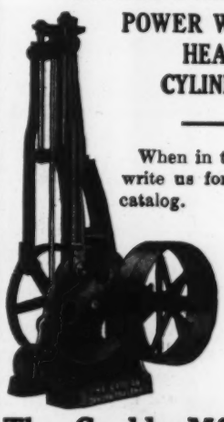

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Fort Wayne Electric Rock Drill

The drill that saves three-fourths of your present power cost and yet advances your work quicker, easier and better than ever. Did you see our ad. last issue? Well, don't wait for the next one—just write for our Bulletin 1120.

FORT WAYNE ELECTRIC WORKS
OF GENERAL ELECTRIC COMPANY
Rock Drill Dept. MADISON, WIS.
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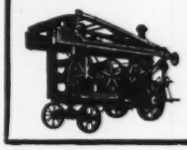
KEYSTONE CABLE DRILLS



For Big Blast Holes (Cat. No. 4); Artesian Water Wells (Cat. No. 1); Placer Gold Testing and Mineral Prospecting (Cat. No. 2); Oil and Gas Wells (Cat. No. 3). Traction and Portable Machines all depths to 2500 feet. Which Catalog?

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RIVETERS
For Boiler, Bridge, Tank Work, etc.

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Air and Gas Compressors

Enclosed, self-oiling. Fifteen types. Any volume, any pressure.

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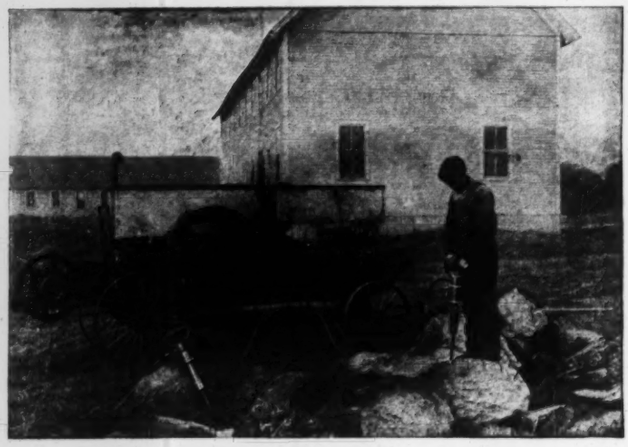

Sullivan "WK 3" Air Compressor, operated by Gasoline Engine, on Wagon Truck, driving Sullivan Hammer Drills.

Sullivan Machinery Company
122 So. Michigan Ave., Chicago, Ill.

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Good Roads

in rocky country can be made quickly and at a relatively low cost, if you have a **Sullivan Portable Drilling Rig** to break boulders, raise ledge, and make light rock cuts. It is just the thing for digging sewer or pipe trenches in rock.

These outfits consist of a **Sullivan Self-oiling Air Compressor,** driven by a gasoline engine and mounted on a two-horse truck; and two or more **Sullivan Smooth Running Hammer Drills,** which can drill holes as deep as five feet and as large as two inches.

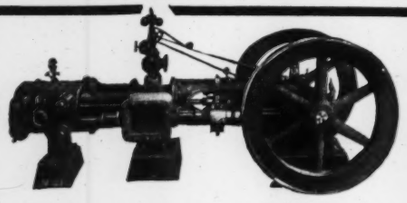
We have some figures which may interest you.

Bulletin 458F

Rock Drills, Channelers
Diamond Drills

The Laidlaw-Dunn-Gordon Co.

Air Compressors



The Laidlaw-Dunn-Gordon line of Air Compressors includes apparatus especially designed for every service.

A few of the small sizes are described in bulletin L51719

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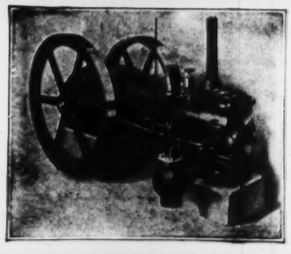
L109.1

CHICAGO PNEUMATIC TOOL CO.
CHICAGO NEW YORK

Builders of a Standard Line of

AIR COMPRESSORS

In Capacities from 30 to 5000 cu. ft. free air pr. min. For Operating directly by Steam or by Electric Motor through Belt, Gear or Direct drive.



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The "Chicago Giant" ROCK DRILLS
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DRILLS

ROCK—HAMMER—CORE
For all classes of work

AIR COMPRESSORS
In various sizes and types

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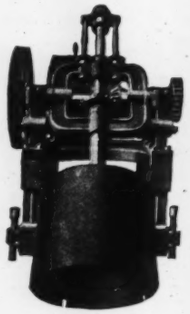
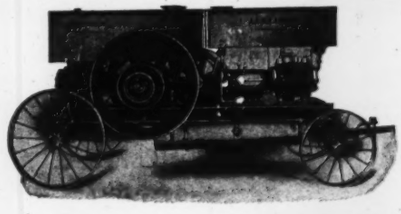


30 in. Core Drill

Write for Catalogue A-2



Portable — Efficient

Abenaque Portable Compressor Outfits

Are saving money for others. Why not for you? Let us talk with you regarding the cost of handling your work with one of our outfits.

Why not Investigate?

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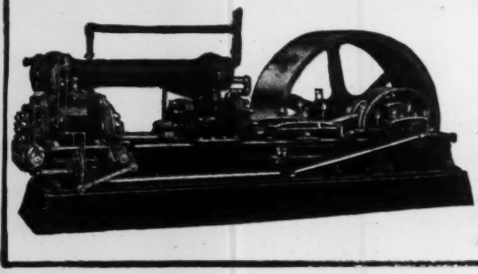
Boston Office, Post Office Square Building, Boston, Mass.



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The Norwalk Motor-Driven Compressor?

Full Load, Part Load, No Load, according to demand.

Don't be satisfied with the "as good" kind. Get "IT!"

THE NORWALK IRON WORKS COMPANY
SOUTH NORWALK, CONN.

Buy an "ALLEN" PORTABLE PNEUMATIC RIVETER

and be sure of the *fastest* and *tightest riveting* at the *lowest cost.*

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Special riveters designed to meet all requirements.

"WHATEVER THE RIVETING, THERE'S AN *ALLEN* FOR THE JOB."

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370-372 Gerard Ave., NEW YORK
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EARNING POWER

Some machinery buyers never look beyond first cost. They live and buy in the present.

Wise buyers look ahead—and know that earning power is more important, in the long run, than price.

When you buy Ingersoll-Rand Compressors, Coal Cutters, Rock Drills, Plug Drills, Core Drills, Air Tools and Pumps, you buy machines built with an eye to the future.

They are not "low-priced" machines, **but they have the earning power which makes them low cost machines.**

Which is more important—low price, or low cost ?

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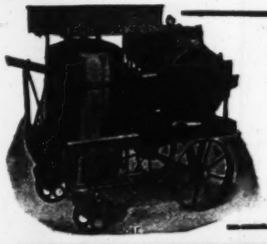
Offices in All the Principal Cities of the World



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For General Industrial Service

Reliable—Efficient—Economical

Motor and Belt Driven Stationary Types
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"PEERLESS" AIR COMPRESSORS

VACUUM PUMPS *Send for Catalogue*

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"Dallett" Air Compressors

Single—Duplex—Compound
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Send for our literature.

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IS THE

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HANNA ENGINEERING WORKS
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"WOOD" ROCK DRILLS

Made by

Wood Drill Works,
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HAROLD L. BOND CO.
383 Atlantic Ave.
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27 Coenties Slip
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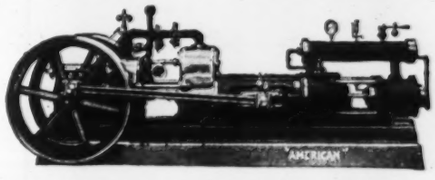
that can be "Cleaned up with a Sledge Hammer" and "Wiped Off with a Scoop Shovel" and yet "Stay with You."



Dependability

That is the one word that differentiates from others

"American" Air Compressors

There's not only more metal in them, size for size, but it is proportioned to withstand the greatest possible stresses, giving "American" Compressors the greatest possible durability.

"American" Compressors are equipped with every improvement for the most economical compression of air, including improved removable brass seated poppet air valves and our improved balanced steam valves.

Made in simple, tandem and cross compound styles, in both horizontal and vertical types and in any size.

Complete Compressor Catalogue 115, for the asking.

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Catalog Directory

Catalog 105—Well Drilling Machinery, 8 x 11 in., 196 pages.
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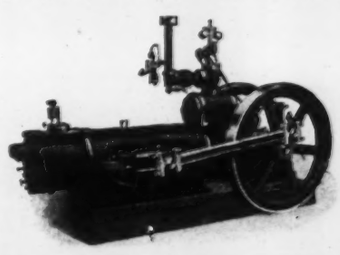
The American Well Works

General Office and Works: Aurora, Ill., U. S. A.
Chicago Office: First National Bank Building



THE HUBER

Combines in itself the greatest number of useful and valuable features. Built for rolling, but equally valuable for hauling, or furnishing power for stationary work.

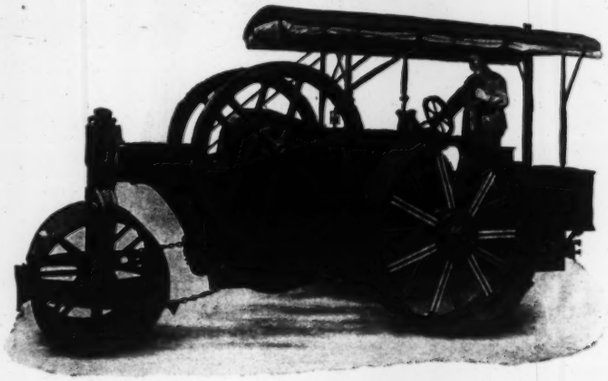
It gives the Contractor power for all kinds of work, but at the minimum of expenditure for equipment. The adaptability of this outfit makes it of peculiar value to the owner.

The boiler construction is a noteworthy feature. It is of the self-contained return-flue type; fire wholly contained within the boiler proper, and all the heat passing twice through the length of boiler before reaching smoke stack. This makes for economy and increased efficiency.

Our catalog of the Contractor's Line gives full details of this and other outfits we build. If you wish a copy of the book, write

The Huber Manufacturing Company
Dept. 12, Marion, Ohio
New York Office, 126 Liberty Street

The Austin Motor Road Roller



Sizes: 7-8-10-12-15 Tons

USING GASOLINE, KEROSENE OR DISTILLATE

No Smoke, No Sparks, No Boiler Troubles, No Water Teaming

SAVES time of raising steam and washing boilers.
SAVES money in repairs and operating costs.
SEVERAL HUNDRED IN USE throughout the United States and foreign countries.

We also manufacture:
Road Plows, Wheeled and Drag Scrapers, Road and Elevating Graders, Scarifiers, Jaw and Gyratory Rock Crushers, Street Sprinklers and Sweepers, etc.

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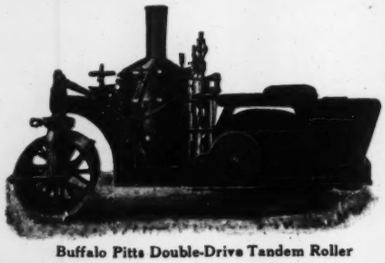
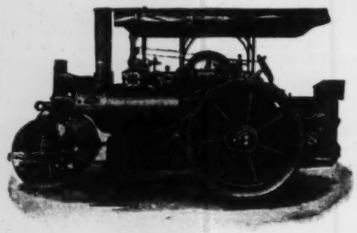
Buffalo Pitts Road Rollers

Purchased by experienced buyers because their cost for operation and maintenance is the lowest and their efficiency and durability the highest.



Buffalo Pitts Double-Drive Tandem Roller



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Made in all types and sizes for all purposes.

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Acme Road Machinery Co.

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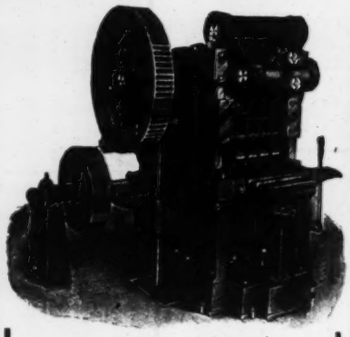

We build complete equipments for making Sand Lime Brick. Also Clay Products. Write for catalogue.

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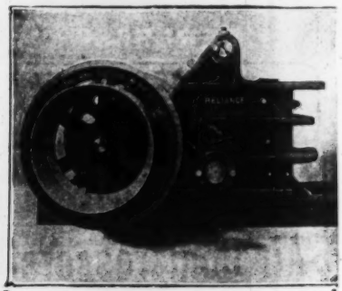

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And ROAD BUILDERS' EQUIPMENT. The most practical and efficient line of road machinery on the market to-day.

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Send for our Catalogue of Asphalt Rollers and Mixers

"Our 20th Century Roller"

31 West 13th Street, Erie, Pa.

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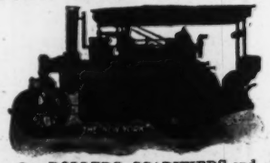

Our ROLLERS, SCARIFIERS and SPRINKLERS are unequaled for giving the maximum of service at the minimum cost of maintenance.

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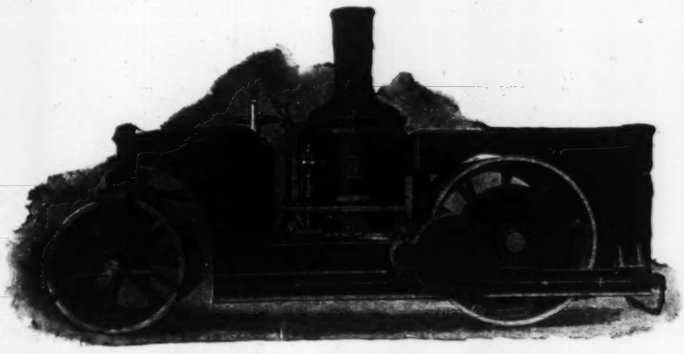
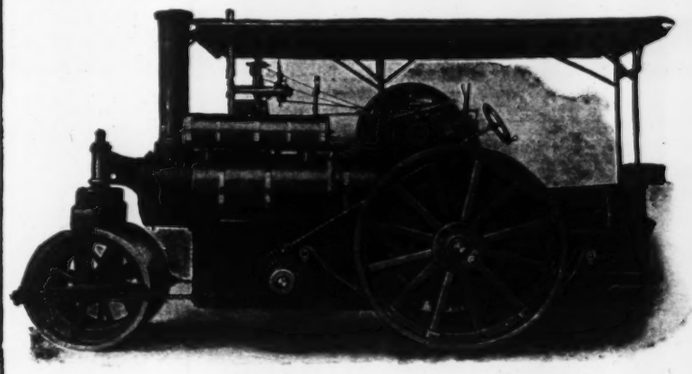
150 Nassau St., New York



Steam Road Rollers

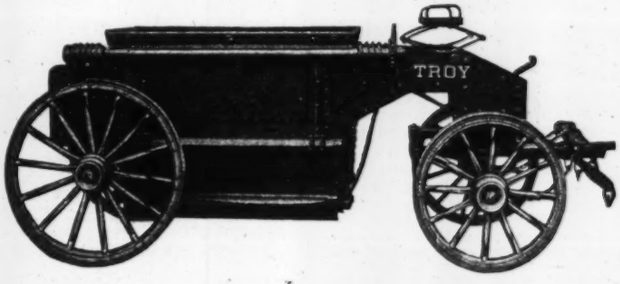
All Types All Sizes
For all Purposes

THE
Kelly-Springfield Road Roller Co.
Springfield, Ohio
U. S. A.



Tired Shovelers

Can't work fast



Shoveling into a high dump wagon is an awful strain. It gets the best of the strongest man on these hot days.

If you want your shovelers to work as fast at 4 p. m. as at 9 a. m., get TROY Specials. They are low down—the 1 1-2 yd. size is only 4 ft. 8 1-2 in. from ground to top of box. At the same time, it's coupled close to make it easy running—only 8 ft. 4 in.

Look at any other low down wagon—see how long it is. Look at any other short wagon—see how high it is. Then get a price on the Special—you will like it, too. Get Catalog 2N.

The Troy Wagon Works Co.
Race and Walnut Sts., Troy, Ohio

"THE ROAD IS THE THING," when built by

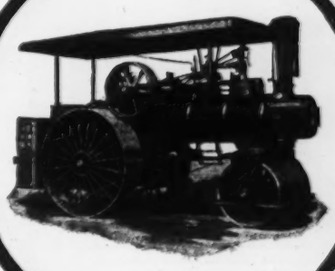
The CASE

POWER STEERED
ROAD ROLLER

Write for Catalog "N" on Road Roller and Road Machinery

Power Steering

Saves time over hand steering. Time saved is profit. The time saved in using a Case Roller, and the extra work accomplished, give increased profits to you, Mr. Contractor.



We Sell
Troy Dump Wagons and Dump Boxes

Send for our Road Machinery Catalog No. N covering full line of road machinery

Simple Cylinder Roller
Price, - $2200
(6 per cent. discount for cash)

J. I. Case Threshing Machine Co.
(Incorporated)
RACINE, WIS., U. S. A.
NEW YORK OFFICE: 50 CHURCH ST. BRANCH HOUSE: SYRACUSE, N. Y.

The Symons Disc Crusher

Makes That Small Sized Product!

These machines are now crushing trap rock, quartz, boulders, granite, ores and limestone in many parts of the United States, Canada and Europe.

They follow gyratory or jaw breakers, reducing rejections at one operation to ANY SIZE desired, down to 3/8 in. or even to 5/16 in.

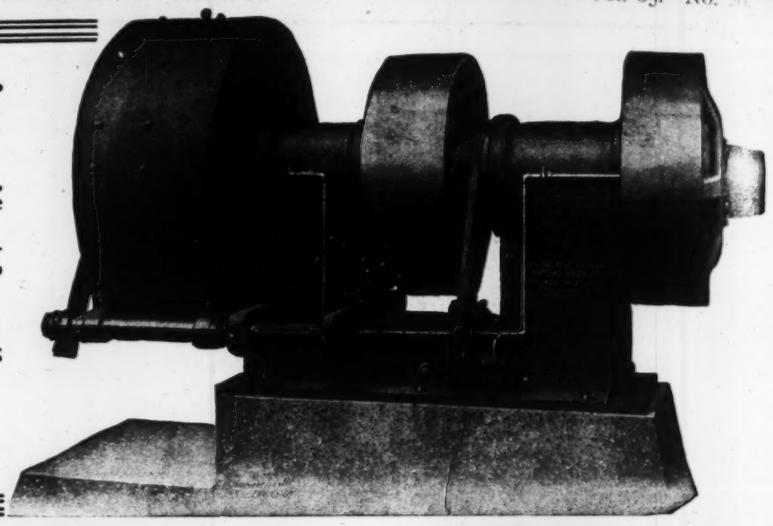
UNRIVALLED IN CRUSHING GRAVEL

Greatest capacity; manganese equipped; easy running; simple; exceptionally durable.

To watch them in operation is to be convinced.

Write for catalogue, and name of nearest user.

SYMONS BROTHERS, MAJESTIC BUILDING MILWAUKEE, WIS.

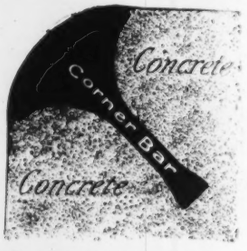


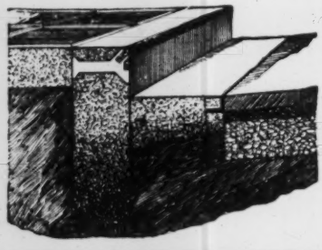
WAINWRIGHT GALVANIZED STEEL CORNER BAR

"WAINWRIGHT PATENTS"
March 9, 1897
November 22, 1898
May 5, 1903
March 26, 1907
August 29, 1907
August 2, 1910

For Protecting Edges of Concrete Curbs, Steps, Columns, Etc.

This bar is SELF-ANCHORING, the DOVETAILED WEB holding it firmly in place EVERY INCH OF ITS LENGTH. It requires no hooks, clips, bolts or wires at intervals, to cause buckling or expansion, resulting in loosening of curved plates or other devices, which latter form no permanent protection to the curb. This bar presents a RESISTING DEPTH of nearly AN INCH OF SOLID STEEL, at any possible point of impact, as compared with other devices using seldom more than one eighth of an inch of resisting surface. It has a record of ten years' use without failure.





This bar is the main feature of the

WAINWRIGHT STEEL-BOUND CONCRETE CURB

Absolutely Non-Breakable—Cheaper than Granite

THE BEST IN THE WORLD

OVER THREE MILLION FEET IN USE IN MORE THAN THREE HUNDRED CITIES IN THE UNITED STATES AND FOREIGN COUNTRIES

THIS CURB WILL STAND HARDER USE AND LAST TEN TIMES AS LONG AS PLAIN CONCRETE CURBING

CONTRACTORS can make money by laying this curb. **CITY ENGINEERS** can save money by specifying it

ARCHITECTS are invited to read pages 242-243 *"Sweet's Index"*

METAL PARTS FOR SALE

Send for Copyrighted Booklet, No. 5

STEEL PROTECTED CONCRETE CO. REAL ESTATE TRUST BUILDING PHILADELPHIA, PA.

Hawkeye Grub and Stump Machine

Works on standing timber or stumps. Clears three acres at a sitting. Two horses develop the power of 144 horses. Used by hundreds of contractors.

C. D. SMITH & CO., General Contractors
Main Office, 280 Front St.
MEMPHIS, TENN., Nov. 29, 1901.

Gentlemen: We are using two of the two-horse Hawkeye Grub and Stump Machines bought from you, on our railroad work in Mississippi. We consider this machine invaluable to any contractor having work in timber. We have had ample opportunity to test its merits in the Yazoo Delta, where timber grows large and thick. There are three other two-horse Hawkeye Stump Pullers working satisfactorily on our work. We take great pleasure in recommending your machines.

Yours truly. C. D. SMITH & CO.

Earns its cost in a few days

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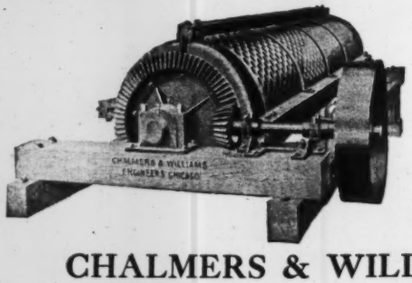

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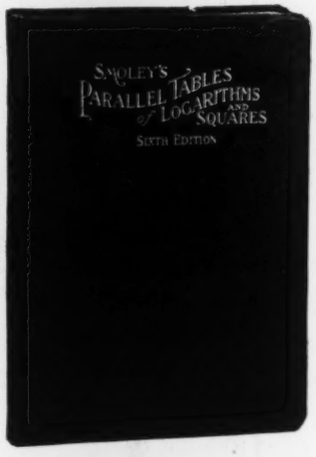

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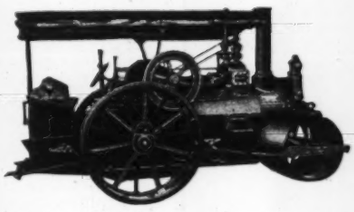

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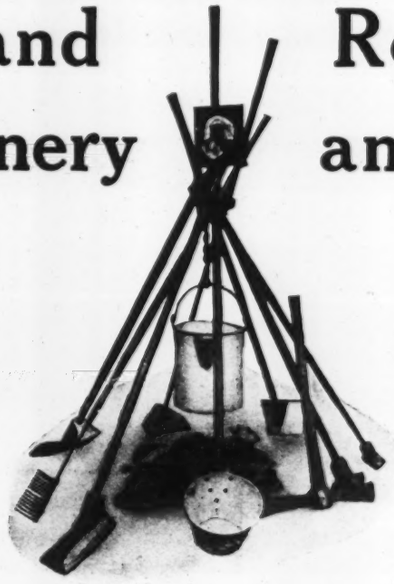

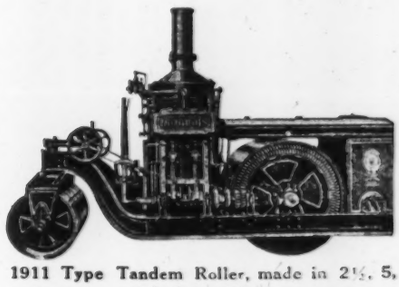

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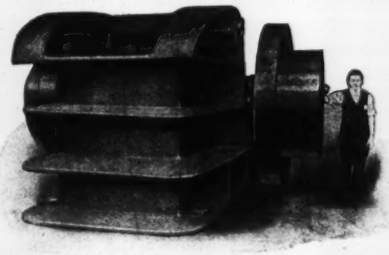

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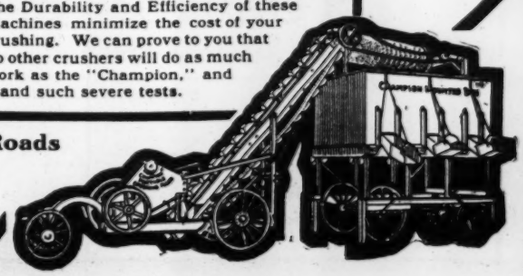

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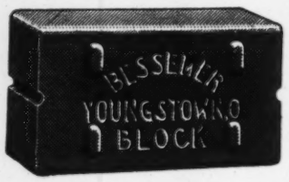

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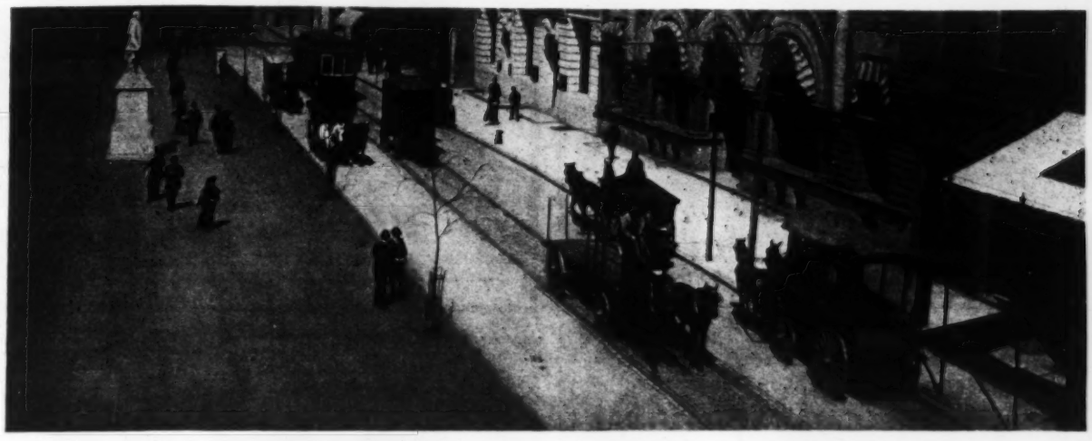

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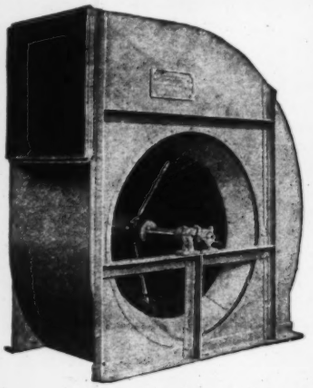

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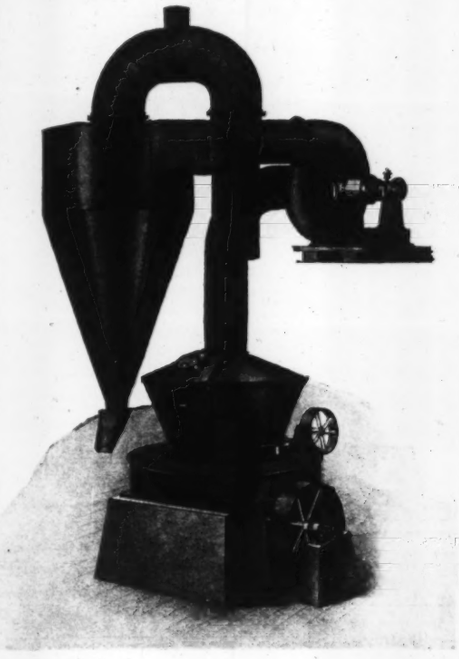

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ESTIMATOR on steam-power plant piping; must be thoroughly conversant with this particular line of work. Steady position for right man. State salary desired. Address "P. 25," Engineering News, New York. 25-2t

WANTED—Advertising man, young and ambitious, capable of handling details and writing advertisements on gas, electrical and steam-power machinery for agricultural and engineering papers. Good, permanent proposition with a large manufacturer. Address "Z. 25," Engineering News, New York. 25-3t

WANTED—By structural steel firm in New York City, first-class structural detailer and checker; permanent position. Address "S. 25," Engineering News, New York. 25-2t

DRAFTSMAN—Competent men with broad experience in mill building construction, power plant design and general engineering wanted at once by large Industrial Plant near New York City. Full particulars as to experience, age, salary and references required. Address "K. A. 25," Engineering News, New York. 25-3t

WANTED—Machinery Salesman to handle on a commission basis a well advertised feed water heater and a corrugated metal expansion joint. Agents wanted in the vicinities of Harrisburg, Scranton, Cincinnati, Columbus, Detroit, Indianapolis, Milwaukee, Charlotte, Greenville, Atlanta, Birmingham, New Orleans, El Paso, Butte. ALBERGER CONDENSER COMPANY, 140 Cedar St., New York. 25-8t

WANTED at once chief draftsman familiar with hoisting engines of all descriptions; must have experience in this line; permanent position to right man; nine hours a day; location near New York; salary and earliest date available. Address "M. A. 25," Engineering News, New York. 25-2t

WANTED—Several first-class detailers on bridge and structural work; also several graduates with from one to two years' experience. Apply by letter, stating age, education, experience and salary wanted. Address "A. B," Room 1618 Pennsylvania Building, Philadelphia, Pa. 25-2t

WANTED—Ten dump wagon salesmen. Must have experience in selling contractors and dealers. Are required to go any place in the country where business develops. Good salary to right parties. In answering this ad. state age, where now employed or where formerly employed and reason for quitting or wanting to quit; experience if any, in selling or using dump wagons; salary expected; when can go to work. If know any one to whom can now sell dump wagons, give names. Give three references and state if can give bond, personal or otherwise. Don't expect reply from us unless your answer to this complete and your record will show you a successful salesman. THE TROY WAGON WORKS CO., Troy, Ohio. 26-1t

WANTED—First-class mechanical engineer, one with experience in designing ore and coal handling machinery. Please give experience, salary required, etc. Address "L. 25," Engineering News, New York. 26-1t

WANTED—Several experienced detailers and checkers. State full particulars in application. Address BOX 97, Buffalo. 26-4t

SUPERINTENDENT—A construction company taking general contracts for reinforced concrete building work, desires the services of a first-class superintendent. Must be familiar with all branches of work entering into the construction of factory, warehouse, office and public buildings. State age, married or single, salary expected and when open for engagement. Work to be in the Metropolitan district. Address "G. 26," Engineering News, New York. 26-2t

WANTED—Salesman. A permanent position open to a competent man familiar with different makes of hoisting engines. An acquaintance with contractors in the Middle West desired. Must have had experience and be able to make good. State experience and salary expected in first letter. Address "P. A. 26," Engineering News, New York. 26-2t

WANTED—In a large Massachusetts city, a competent draftsman on urban map preparation, good at vertical lettering. Ability to conduct field work will enhance salary. Summarize experience; submit sample and references; name trial salary. Address "R. A. 25," Engineering News, New York. 26-1t

WANTED—At once, by cement company doing its own designing and construction, a competent all-round draftsman, fully able to check and handle wide variety of work unaided. Experience in reinforced concrete, mill buildings and machinery a necessity. Permanent and good place for man who knows his business. In answering, state salary expected and experience. Address "B. A. 26," Engineering News, New York. 26-2t

For Additional

Situations Open

Advertisements

See page 40

Agencies or Bureaus

$1.50 per Inch per Insertion

Space under this heading is devoted to notices of employment agencies, bureaus, trade schools, etc.

STRUCTURAL DRAFTSMEN

CHECKERS DETAILERS

Office Buildings, Mill Buildings, Smelters, Tipples, Ore Bridges, R.R. Bridges, Highway Bridges.

——ALSO——

BRIDGE DESIGNERS STEEL

We can offer you **15 per cent. increase** over your present salary to report during July

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ESTABLISHED 1893

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to get a Good position in Drafting or Engineering is to file an application direct with some of our clients who are depending on us to get competent and experienced applicants for their Vacant Positions. Send stamp for blank and List of Vacant Positions.

CLEVELAND ENGINEERING AGENCY, Rose Bldg., Cleveland, Ohio.

The American Service Co.

PITTSBURG, PA.

Require at once Engineers and Assistant on Highway and Street improvements in New York, Conn., Pennsylvania, Georgia, Tennessee, Michigan. Railway construction work Utah, Colorado, Texas, Montana, West Va., Pennsylvania. Hydro-electric Designers and Power development and Service Engineers, Buenos Aires, Michigan, Washington, Georgia, Canada, Maine. Mining Engineers in Alabama, West Va., Utah, Mexico. Municipal Engineers Assistants; also Structural and Mechanical Designers, Checkers and Detailers on Factory Bldgs., Mill Bldgs., Power Plants and several architectural draftsmen referred at once to immediate positions. New positions for College Instructors. Additional Special Correspondents at large required. 26-1t

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Civil Engineers

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Business Men's Clearing House

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Miscellaneous Wants

Cards under this head are inserted in uniform style, in solid type, at 3 cents a word (address to be counted); display, $1.50 an inch. Cash MUST accompany the order in all cases.

WANTED—By competent graduate engineers with practical experience designing and estimating on steel and concrete construction. Address BOX 481, Pottstown, Pa. 23-4t

WANTED—Second-hand transit, must be in good condition. Give price and particulars. Address "M. 25," Engineering News, New York. 26-1t

A SALESMAN of, or one familiar with, contractors' machinery, who would like to make a profitable investment, permanently or temporarily, would do well to address "K. 26," Engineering News, New York. 26-1t

WANTED.

One Macadam Roller

suitable for State road work. State location, condition and lowest cash price. Address HENRY J. SHARKEY, care of Engineering News, New York.

For Additional

Miscellaneous Wants

Advertisements

See page 40

LABOR SUPPLY

furnished for large construction work.

We do not charge commission, but maintain commissary and boarding house for contractor or independently.

We can also furnish good foremen.

JULIAN BROS.

110 Mott Street, New York.
Phone 775 Franklin.

Western Proposal Advertising

Our Chicago office, 1138 Monadnock Block, will receive proposal advertisements until

Tuesday Noon

for insertion in the issue of the Thursday following.

Your Idle MACHINERY

or plant, or tools for which you have no present use might be sold or rented to some other reader of **Engineering News** by the investment of a few dollars on one of our "For Sale" pages.

THE RATE IS $1.50 PER INCH

Situations Wanted

Superintendents, Misc., etc.

PAINTER and letterer (35) wants position with locomotive, car, etc., concern; has foreman; knows his work and does it. Address "E. A. 26," Engineering News, New York. 26-5t

For Sale

Locomotive Crane

FOR SALE.

1—Brown Hoist, 3-ton gauge, 4' 8½', Boom 20', Engine 5½ × 9, Boiler 36"; capacity 8,400 at 12'; 3,900 at 20'.

HOISTING MACHINERY CO.,
50 Church Street,
Tel. 5925 Cort. New York.

FOR QUICK SALE:

One Lidgerwood 850-ft. span

Cableway

complete, with 10" × 12" double cylinder engine, without boiler.

THE WRAYTON-GITHENS CO.,
200 Congress St., Boston, Mass.

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Hayward Bucket

New, 1-yard Hayward Bucket, with teeth, used only four months last season. Perfect condition. Great digger. Low price, delivered anywhere at once.

DALTON & CO.,
25-2t Portland, Me.

FOR SALE.

Three 750-HP. Great Lakes Engineering Works Marine Pattern Cross Compound

Automatic Cut-off Engines

150 R.P.M., built for 150-lb. initial steam pressure; are provided with extended shaft and outboard bearing. Send for full specifications. Photos.

HOISTING MACHINERY CO.,
50 Church St.,
Tel. 5925 Cortland. New York.

FOR SALE.

Steam Shovel

Thew No. 3 Automatic full circle swing, steam shovel. Railroad construction 1½-yard dipper. New from factory in 1910. Moved less than 60,000 yards of earth. Is in the best of repair and fully equipped.

W. C. IRVINE,
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BRENNAN POSITIVE PRESSURE

Crushing Rolls

Opening, 36" × 18" face; manganese steel shells, $400.00. Also 35-HP. Mietz & Weiss Oil Engine. In first-class condition.

WILLIAM BLOSSY,
136 Liberty St., New York City. 26-4t

FOR SALE.

44 Transits and Levels

Instruments thoroughly overhauled. Send for Complete list. THE ENGINEERING AGENCY, Supply Department, Est. 18 years, Monadnock Block, Chicago, Illinois. 26-1t

FOR SALE

Ten Ton Tandem Roller

No. 2 Smith Mixer, steam power.
No. 8 & 4 Gates Crusher plant, Style D.

JOHN A. DONAHUE,
1308 Gt. Northern Bldg., Chicago, Ill. 26-1t

FOR SALE.

One 5-HP. Horizontal Foos

Gas or Gasoline Engine

including piping, curburetor, batteries, etc.; almost new; all parts in the best of condition.

KREMERS-URBAN CO.,
26-2t 529-531 Market St., Milwaukee, Wis.

Reinhardt's
TECHNIC OF MECHANICAL DRAFTING
Shows *how* to do it right Price, $1.00

ELLIS PATENT BUMPING POST
SIMPLE, STRONG AND LASTING
ADAPTED TO ALL POSITIONS

STANDARD FREIGHT POST
MECHANICAL MFG. COMPANY, Chicago, Ill.

Gas Producer Engine For Sale

A ONE HUNDRED AND FIVE HORSE-POWER OTTO GAS PRODUCER ENGINE. PRACTICALLY NEW. ERECTED LESS THAN A YEAR AGO. DISCONTINUANCE OF PLANT FOR WHICH PURCHASED THE REASON FOR SELLING. MORE FIT FOR WORK THAN WHEN NEW. THOMAS A. PAINTER, 79 EIGHTH AVE., NEW YORK, N. Y. 26-1t

FOR SALE CHEAP.

Double track

Deck Girder Bridge

92 ft. span, suitable for trolley road.

F. R. LONG CO.,
26-1t Hackensack, N. J.

FOR SALE.

Vulcan Little Giant Special

Equipped with special long boom for Trench or Sewer work; has been thoroughly overhauled and put in first-class condition. Bargain to quick buyer.

HOISTING MACHINERY CO.,
50 Church St., N. Y. City.

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of needed equipmen or if you desire catalogs and prices on equipment, we will be glad to make your wants known to the leading manufacturers of the material wanted.

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ENGINEERING NEWS
New York

No More Friction with METALINE BEARINGS
Than with Oil Bearings EXPENSE OF OIL SAVED
Write for information and we will tell you all about it.
NORTH AMERICAN METALINE COMPANY
6 West Avenue, Long Island City, N. Y.

Plant Sale

J. G. WHITE & COMPANY, INC.

43 EXCHANGE PLACE, NEW YORK, N. Y.

OFFER FOR SALE CONTRACTOR'S PLANT, AS LISTED BELOW, AT LOW PRICES AND LIBERAL TERMS OF PAYMENT

CHICAGO, ILL.

Three (3) 32 ton Saddle tank locomotives, C. R. I. & P. Ry. Standard Gauge cylinders 15" x 24", tank capacity 1,200 gallons.
Two (2) Atlantic Engineering Co. Steam Shovels, 70 tons, built 1906, Shop No. 39,026-39,027; dippers 2½ cubic yards. Used only short period.

LAKE VIEW, N. J.

One (1) Marion Steam Shovel, Model G, shop No. 663; dipper 2½ cubic yards. Locomotive boiler recently overhauled and in good working condition.

ANDOVER, MASS.

12 Derrick Sticks, 50 ft. to 80 ft. 14" x 14" Oregon pine; 12" x 12" Norway pine.
1 Lidgerwood 7 x 10 Hoisting Engine with boiler, First Class condition. D. C. D. D.
1 Boggs & Clark, 6" Centrifugal Belted Pump.
1 Boggs & Clark, 5" Centrifugal Belted Pump.
1 7½ x 4 x 6 Knowles Pump pop valve pattern, 150 gals. per minute against 300 lbs. pressure.
1 Pulsometer, 4" Suction, 4" Discharge.
1 Pulsometer, 3½" Suction, 3½" Discharge.
1 Page scraper bucket, 1½ cubic yards; practically new.
2 Stuebner concrete buckets, one a cubic yard.
7 Dump buckets, ¾ cubic yard.
1 Acme Jaw Rock Crusher, 10½" x 22". Rated capacity 15 tons per hour. Manganese steel jaws.
Several lots of miscellaneous small tools—wire rope, pipe, etc., etc.

26-4t.

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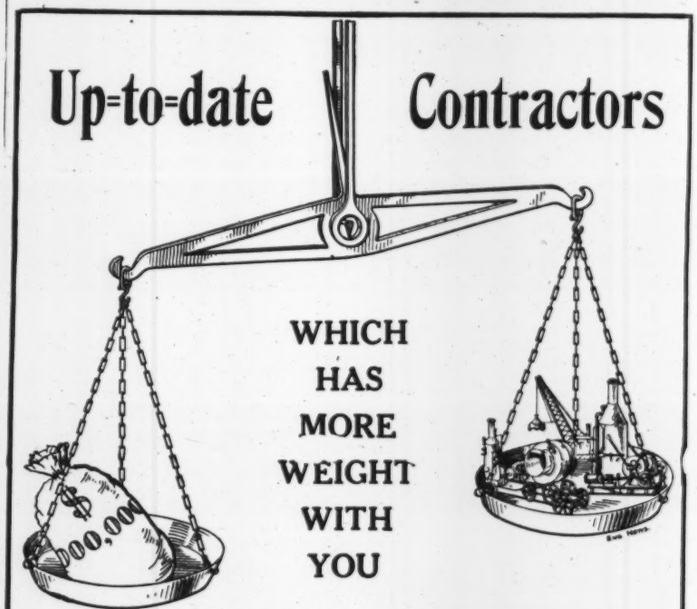

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New and Relaying Rails, All Weights.
Frogs and Switches.
Railway Track Equipment, Tools, etc.
Turntables.
Industrial Cars.
Fire Brick, Cupola Blocks, Shapes, etc.
Write for Catalogs and Prices.

WONHAM, SANGER & BATES
Representatives:
H. K. Porter Company, Locomotives
Continental Car and Equipment Co., Dump Cars
30 Church Street, New York City

FOR SALE

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Second-Hand

All sizes, ⅜ to 24 inches.

Furnished with new threads and couplings, suitable for all practical purposes; large stock constantly on hand, together with a general assortment of used contractors' machinery.

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Land Dredges

Two Hayward land dredges, thoroughly overhauled, immediate delivery.

One with 12" x 12" Lidgerwood engines, 65' wood boom, 1½ yd. orange-peel bucket. Other 12¼" x 12¼" engines, 60' steel boom, 2 yd. bucket.

E. H. Wilson & Company
Arcade Building
Philadelphia

FOR SALE OR RENT.
5—10 × 16 Porter, 36" S. T. Locomotives.
2—10 × 16 Baldwin, 36" S. T. Locomotives.
1—13½ × 22" Baldwin 6-driver, S. G. S. T. Locomotive.
5—50,000 capacity S. G. flat cars.
3—10 Ton 3-wheel New York road rollers.
1—5 Ton tandem Iroquois asphalt roller.
1—2½ Ton tandem Iroquois asphalt roller.
1—26 Ton Little Giant special traction steam shovel.
1—26 Ton Little Giant standard traction steam shovel.
1—40 Ton Marion "A" S. G. steam shovel.
5—Lambert D. D. with boom swings electric hoists, 30, 40 and 60 HP. 220 volts.
30—Hoisting engines, Lambert, Mundy, Lidgerwood, skeleton or mounted, with and without boom swing, 6 to 50 HP.
Steam Pumps, Boilers, Rock Drills, Derricks, etc. Let us have your inquiries.
6,000 ft. 9" spiral riveted Pipe (flanged).
HENRY A. HITNER'S SONS CO.,
Philadelphia, Pa.

FOR SALE.

Hydraulic Dredge

20-inch Hydraulic Dredge.

F. S. LEWIS,
Bullitt Bldg., Philadelphia.

Locomotives

Consolidation, Mogul, Ten Wheel and Switch type; 140 narrow and Standard Gage.

Largest Stock of Locomotives in United States

Southern Iron and Equipment Co.
ATLANTA, GEORGIA

Contractor's Plant

FOR SALE.

Locomotive Cranes, Derricks, Concrete Mixers, Electric Hoists and Car Hauls, Cableways, Locomotives, Steam Shovels, Hoisting Engines.

All necessary equipment for complete plant.

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Drexel Building, Philadelphia, Pa.

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The Croton Falls Construction Company of Brewster, N. Y.

have for sale the following contractor's outfit. Contractors needing any article of plant below enumerated would do well to look this offering over before purchasing elsewhere.

The entire plant is almost new and as soon as released each article was passed through the shop and thoroughly overhauled and put in first-class working order, making it practically as good as a similar article coming from the manufacturer's hands.

1 7'-7"x3' Air Receiver, 2" & 4" Con.
1 40 H.P. Locomo. Boiler on skids
1 60 H.P. Locomo. Boiler on skids
1 70 H.P. Locomo. Boiler on skids
1 30 H.P. Vertical Boiler
1 25 H.P. Vertical Boiler
4 40 H.P. Locomo. Boiler on wheels
6 260 H.P. Vertical Boilers, water tube
12 2½-yd Excelsior Buckets, Stuebner
6 2-yd. Cyclopean Buckets
6 2½-yd. Cyclopean Buckets
7 ½-yd. Dump Buckets
1 1-yd. Excelsior Bucket
3 1-yd. Hains Buckets
1 Ingersoll - Sergeant Compressor Class F
1 Ingersoll - Sergeant Compressor, Class H, 15x28x25¼
1 Vulcan Straight Line Compressor, 20x20x30
1 No. 10 McCully Crusher with Screens, Complete
1 Climax 9x15 Crusher with 9x12 Engine
3 Narrow Gauge Box Cars
1 Observation Pay Car
1 Closed Pay Car
30 Flat Cars, heavy
30 4-yd. One Way Dump Cars
2 1½-yd. Two Way Dump Cars
80 Pairs 33" Car Wheels with 4¼x8 Journals and Boxes, complete
1 70-ton Bucyrus Shovel
1 30" Belt Conveyor, 250' long, complete
2 30" Belt Conveyors, 1-330' and 1 395' long, complete
16 Stiff Leg Derricks, 40 ft. Mast 70' Boom, complete
8 75' Guy Derricks 70' to 75' boom, complete
19 Murphy Drills, 3 5-8x8.
7 70' Guy Derricks 60' to 65' boom, complete
2 Little Champion Drills, 2½x5¼
4 Drill Columns, 5½x7
6 Drill Column Arms, with saddle, complete.
1 No. 0 Cyclone Traction Drill 3" Tools
1 No. 4 Cyclone Traction Drill, 5⅝" Tools
29 7x10 Lidgerwood Engine, D. C. D. D. with No. 4 Swing Gear, almost new
2 7x10 Lidgerwood Engines, D. C. D. D. and Boiler No. 4 Gear, almost new
1 7x10 American Engine D. C. D. D. and Boiler No 4 Gear
1 300 H.P. Corliss Engine 16x36
6 Vulcan 10x16 Locomotives, 36" gauge
2 Davenport 10x16 Locomotives, 36" gauge
1 No. 33 Municipal Mixer and Engine on Steel Skids, complete
3 Hains Gravity Mixers
1 No. 5 Smith Mixer Engine, no boiler
1 American Band Saw
1 Swing Saw Wall Pattern No. 384A
40 4-yd. Steel Skips
100 4-yd. Wooden Skips
5 1500-gallon Wooden Tanks
1 5500-gallon Iron Tank
1 6000-gallon Iron Tank
1 Power Hack Saw
1 Blacksmith Blower
2 Kotton Pneumatic Baby Stone Surfacer

PUMPS

1 Davidson 14"x8½, 6 suction 5 discharge
1 Duplex Dean Tandem Compound 9x14x14 12 suc. 10 dis.
1 Centrifugal Pump Belt Driven 8 suc. 6 dis.
1 12" Foot Valve
1 Centrifugal Pump Belt Driven 7" suc. 6" dis.
1 Blake Duplex 4½x2x2¾x4 2 suc.
2 Blake Duplex 4¼x2¾x4 2 suc.
1 Blake Duplex 6x4x6, 3¼ suc. 3 dis.
4 Cameron Light Service 6x8x13, 5" suc. 4" dis.
1 Cameron No. 10 12x13 8" suc. 6" dis.
1 Cameron No. 5 3½ suc. 3½ dis.
1 Cameron No. 7 4" suc. 3" dis.
1 Cameron No. 3A 2" suc. 2" dis.
1 Cameron No. 10 Sinking Pump 14x9x18 6" suc. 5" dis.
1 Pulsometer No. 7 4" suc. 4" dis.
1 Pulsometer No. 6, 4" suc. 3½" dis.
1 Pulsometer No. 3 2" suc. 2" dis.
1 Emerson No. 6 10" suc. 8" dis.
2 Lidgerwood Cableways 1450 ft., with 2 engines, 12¼x15 drums 60" diameter 42" long
1 Lathe 10' bed 20" swing Whitcomb & Blaisdell Tool Co.
1 Radial Drill Press 33" American Tool Works
1 Standard Bolt & Pipe Cutter ¼" to 2"
1 Planer 6'x24" Lathe & Morse Tool Co.
1 Blacksmith Service Plate
1 1000-gallon Wicks Open Water Heater, 1000 H.P. 1-8" & 1-10"
1 Smoke Stack, 66" diam., 110 ft.
1 Smoke Stack 60" diam., 95 ft.
1 10" Silver Upright Drill.
1 10" Post Drill Press
66 Frogs for No. 60 Rail
60 pairs of 10-ft. Switches for No. 60 Rail
12 Pairs of 15-ft. Switches for No. 60 Rail
7 Sets of 3-Rail Switches for No. 60 Rail
54 Tons of No. 80 Rail
2 Bridge Girders 104'-6" weight 83,500
9 Bridge Girders, 49' 0", weight about 3 tons each
1 Emery Wheel
Numerous smaller equipment of every kind

FOR SALE OR RENT.
No. 2 Foote Continuous Mixer on trucks, steam power.
No. 3 Foote Continuous Mixer, steam power and traction.
2—No. 2½ Smith Mixers, steam power on trucks.
1—No. 2 Smith Mixer, steam power on trucks.
1—½ yd. Steam Chicago Mixer on trucks.
2—Eureka Mixers with Electric Motors.
2—No. 4 Champion Crushers on skids.
1—No. 4 Champion Crusher; plant complete.
1—No. 4 Pulsometer Steam Pump.
1—15-ton Steel Derrick, 110 ft. mast, 100-ft. boom; fittings and rope complete.
Everything in stock for contractors. Agents for Foote Mixers, Reliance Crushers, Gasoline Diaphragms, Pumps, Buckeye Lights, etc.

McKELVEY MACHINERY CO.,
6 Albany St., New York City.

RELAYING RAILS

Railway and Contractor's Equipment

BOUGHT AND SOLD

HYDE BROTHERS & COMPANY
Commonwealth Bldg., Pittsburgh, Pa. 50 Church Street, New York, N. Y.

FOR SALE.

45 Ton Marion Shovel

No. 442, Syle A, 1½-yard dipper, thoroughly overhauled. Immediate delivery. Located at Kingsbridge, New York. McDONALD & BARRY, 230th St. and Kingsbridge Ave., New York.

FOR SALE.

2 New Cableways

300' Span. Cables can be furnished for different span if required.

Send for Specifications if interested.

JOHN T. HORTON,
Specialist in Hoisting Equipment,
95 Liberty St., N. Y. City.

MUST MOVE AT ONCE
AND WILL
SACRIFICE
MODEL "A"

MARION STEAM SHOVEL

Old Style, but splendid digger. Send in your offer.

THE NEW YORK PURCHASING AGENCY, INC.,
76 Pine St., New York City.
AGENTS FOR "COLTRIN" CONCRETE MIXERS

Quick Delivery — STEAM SHOVELS, ETC. FOR SALE — Bargain Prices

THEW type "O"; traction, new 1909; good as new.
BUCYRUS, 70-TON, 2½ yd. dipper; fine order.
MARION, Models 20, 30, 40 & 60. Fine order; practically good as new; far above usual offerings.
DALLETT & COMPANY,
611 Harrison Bldg., Phila.

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3—50-HP. Fairbanks-Morse Gasoline Engines.
1—14 x 36 Girder Frame Corliss Engine.
1—14 x 42 Girder Frame Corliss Engine.
1—60" Sturtevant Heating Fan and 1,500 ft.—1" Pipe Coils, direct connected to 5 x 5 Vertical Engine.
2—60" x 16 Horiz. Tub. Boilers, 125 lbs.

WIRE ROPE BARGAINS

15,000 ft. 1¼ Plow Steel (new).
10,000 ft. 1" Crucible Steel (new).
50,000 ft. ⅝" Crucible Steel, overhauled.
20,000 ft. 1¼" Crucible Steel, overhauled.
10,000 ft. 1 5/16" Crucible Steel, overhauled.
12,000 ft. 1⅜" Crucible Steel, overhauled.
Write for our Bargain List No. 258.

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35th and Iron Streets CHICAGO, ILL.

FOR SALE OR RENT
Hoisting Engines.
Guy and Stiff-Leg Derricks.
Complete Driving Outfits.
Direct-Connected Centrifugal Pumps.
Complete Stone-Crushing Plants.
Air-Compressors and Pile Drivers.

MARVIN BRIGGS, Inc.
167 Sixth St., Brooklyn, N. Y.

FOR SALE OR RENT

70 ton Bucyrus Steam Shovel

JAS. S. BRADEN
26 Cortlandt Street NEW YORK

For Additional
FOR SALE
Advertisements
See page 42

CONTRACTORS' EQUIPMENT

92 Ton Vulcan Shovels
55 Ton Marion Shovels
45 Ton Bucyrus Shovels

50 to 80,000 lbs. CONSTRUCTION FLAT CARS

12 to 65 ton CONTRACTORS' LOCOMOTIVES

6 Yard Western Dump Cars
12 Yard Western Dump Cars
12 Yard Oliver Dump Cars

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RAILWAY EQUIPMENT

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M. E. DAVIS, Eastern Sales Agent

WESTERN WHEELED SCRAPER COMPANY

NEW YORK OFFICE, 50 CHURCH STREET. Phone, 6214 Cortlandt

Immediate shipment from nearby stock of **Wheeled and Drag Scrapers, Plows, Wagons, etc.**

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MINES

ENTIRE EQUIPMENT

OF THE

Clear Spring Coal Company

One of the Largest Independent Collieries in the Anthracite Coal Regions,

FOR SALE

Engines, Boilers, Pumps, Hoists, Pipe, Electrical Equipment and Breaker Machinery.

Catalogue on Request

Huntington Machinery & Supply Co.

UNDER WIRE BRIDGE

WILKES-BARRE, PENNA.

BARGAINS.
EXCEPTIONAL OPPORTUNITIES.

CONCRETE MIXERS

(With Engine and Boiler on Wheels.)

No. 2 Smith; used 1 month.....$550
½-yd. McKelvey; used 2 weeks.....$600
No. 2 Foote, Continuous, A1.....$250
No. 2 Ransome, with Gasolene Engine..$400

STONE CRUSHERS

No. 3 Climax, with 36' Elevator, 10" Screen, Return Tailing Conveyor, 36 HP. Engine on 40-HP. Boiler on Wheels; 100-ton Bin. In splendid condition; little used. $1,800.

No. 4 Champion on Wheels, Elevator and Flat Screen, with engine and boiler on Wheels; used only 2 weeks; perfect. $1,000.

Hoisting Engines, Boilers, Pumps, etc. Steam Shovels, Locomotives, Cars, etc.

THE NEW YORK PURCHASING AGENCY, INC.,
76 Pine Street, New York City.
Agentsfor "Coltrin" Concrete Mixers

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35 Hoisting Engines

Lidgerwoods, Americans and other makes. Cylinders, 5 x 8 to 14 x 16. Some equal to new.

3—No. 5 Smith Mixers on skids.
1—Little Giant Traction Shovel.
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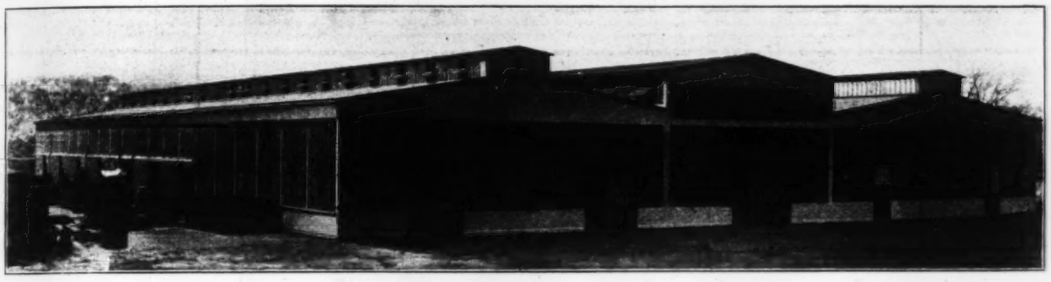

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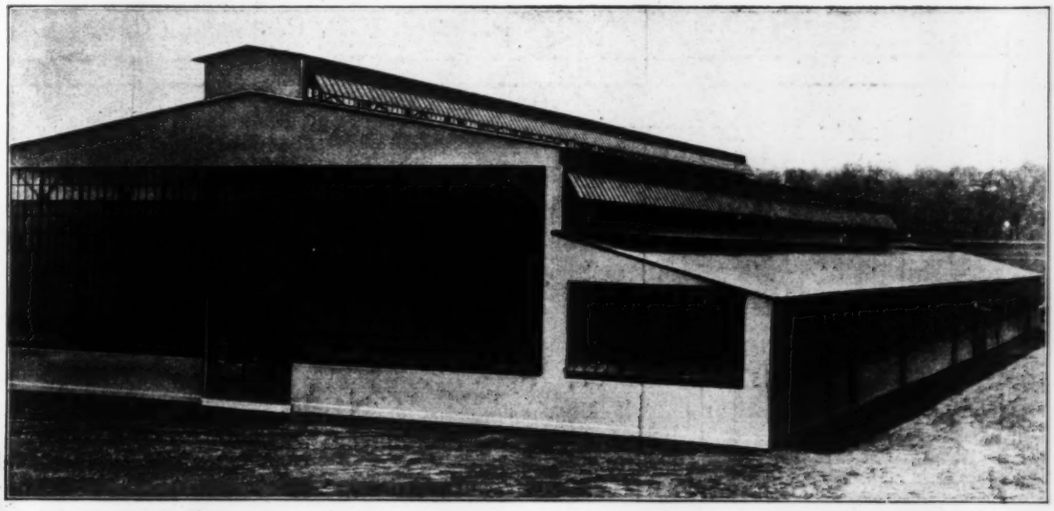

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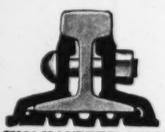

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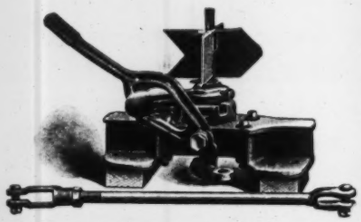

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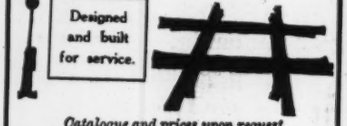

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Section: 85 lbs. A. S. C. E.
Wing Rails: Rolled manganese.
Heel Rails: Rolled manganese.
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Estimated life: Two and one-half years.
Average life of bessemer frog at this point: Ninety days.
Character of service: Switching.
Number of bessemer frogs outworn to date of photograph: Eight.
Estimated ratio of wear value, manganese to bessemer: Ten to one.

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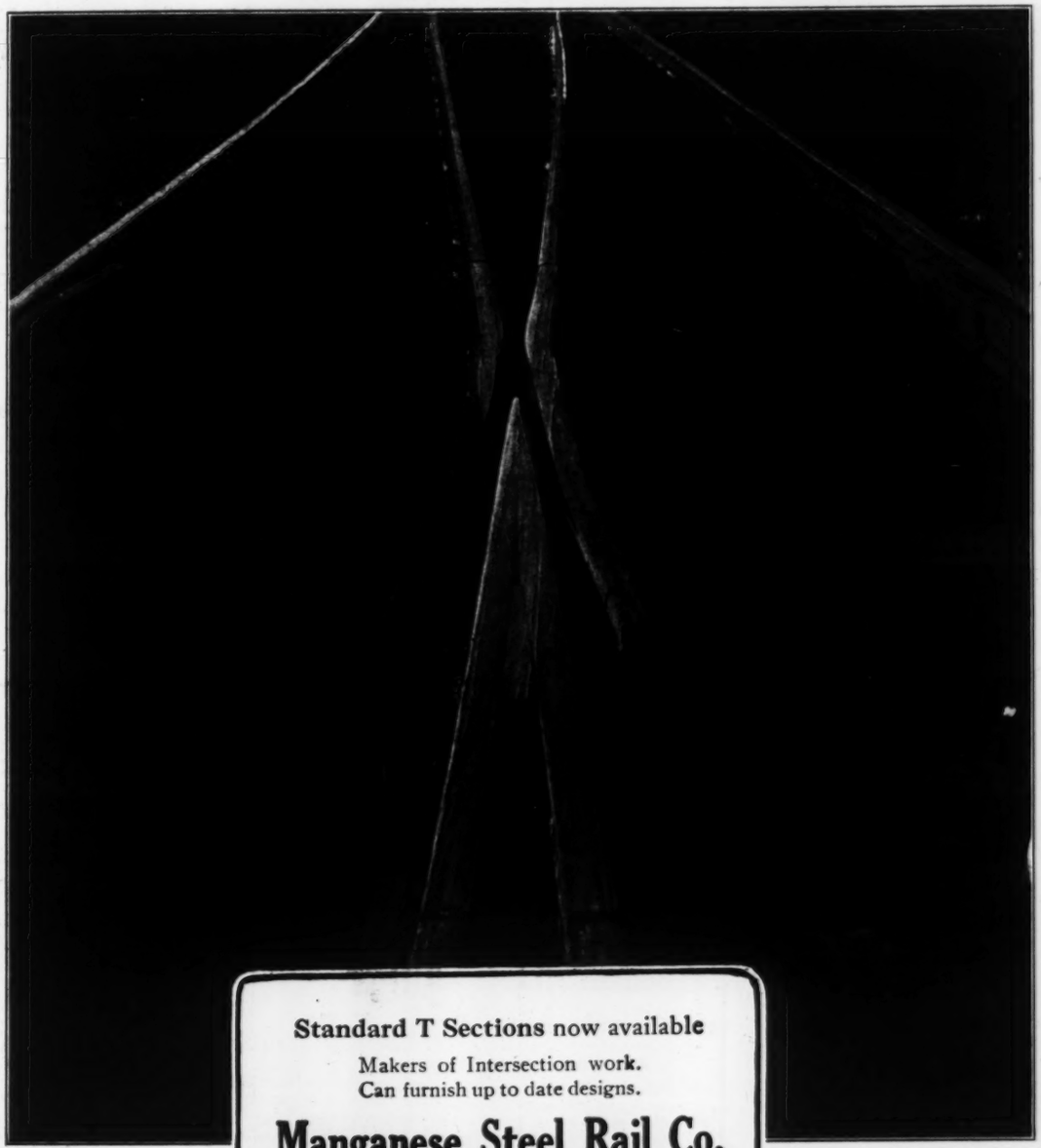

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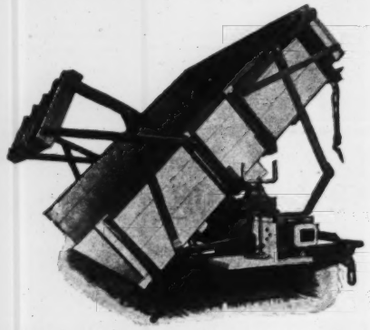

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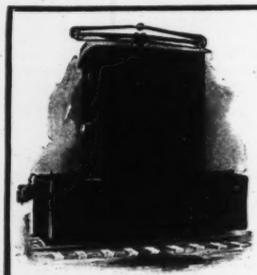

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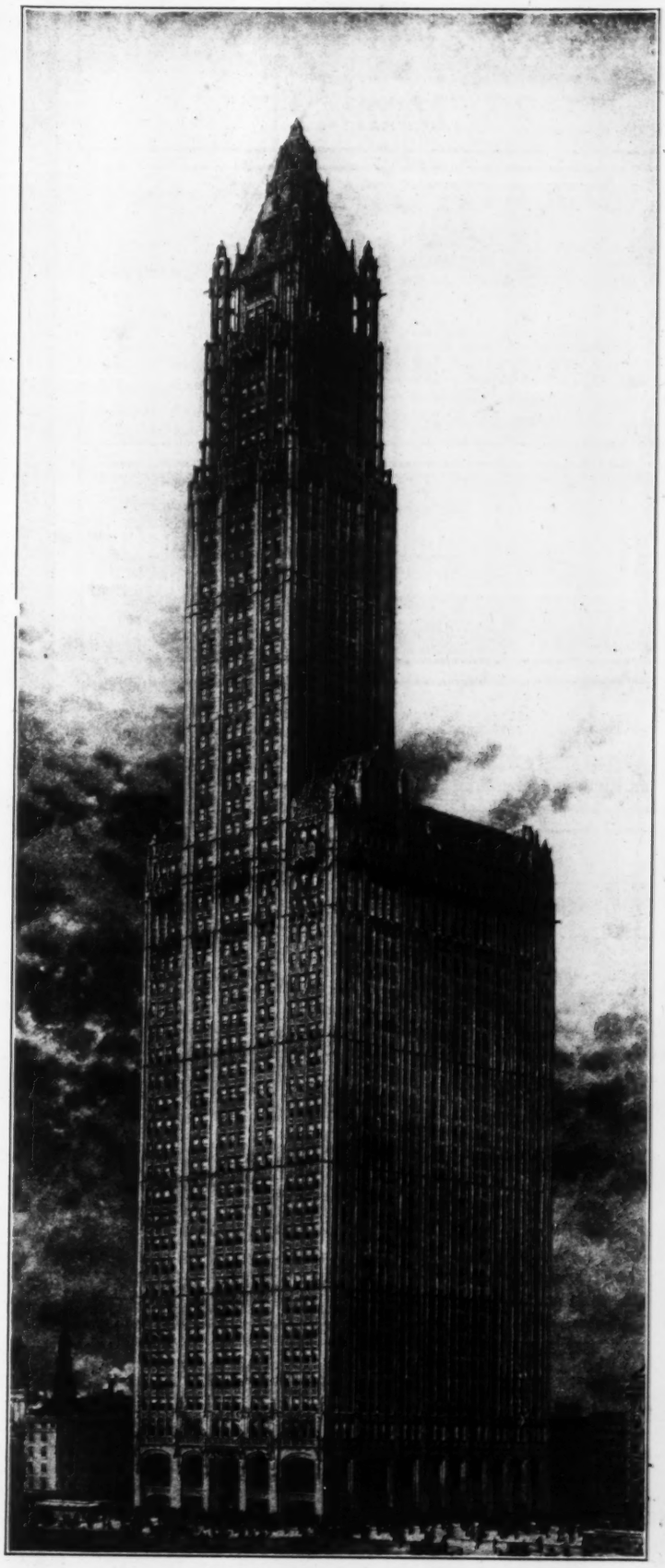

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Proposals shall be accompanied by certified check in the sum of $2,000, and the contractor to whom the award is made will be required to furnish surety company bond in the sum of $20,000 within thirty days after official notice of award of contract and in accordance with the terms of Specification No. 1439. The right is reserved to reject any or all bids.

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MECHANICAL ENGINEER.

Municipal Civil Service Commission, 299 Broadway, New York, June 13, 1911.

(AMENDED NOTICE.)

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for the position of

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No application delivered at the office of the Commission, by mail or otherwise, after 4 P. M., June 27, will be accepted.

The examination will be held on THURSDAY, JULY 20, 1911, at 10 A. M.

The subjects and weights are: Technical, 5; Experience, 3; Arithmetic, 2; 75% required on technical and 70% on all.

Candidates must have had drafting-room experience on details of mechanical appliances, together with at least three years' experience in assembling and erection of units connected with steam plants. They must show a familiarity with details of complete mechanical equipments of public buildings—plumbing, elevators, heating, electric lighting, pumping and power systems.

Minimum age, 21 years. One (1) vacancy in office of Commissioner of Public Works, Manhattan. Salary, $2,550 per annum.

F. A. SPENCER, Secy.

WATER-WORKS.

St. Catharines, Ont.

Sealed tenders, addressed to the Chairman of the Commission, marked "Tender for pipe laying," or "Tender for Tunnel," will be received up to 12 o'clock noon on Thursday, July 13, 1911, for

Section "A"—4,200 linear feet of Rock Tunnel, 5' × 8'.

Section "B"—Excavation and pipe laying 5,000' 24" and 30" Cast Iron pipe.
36" Cast Iron Intake pipe.
Concrete Intake and Valve Chambers.
Building auxiliary Reservoir.

Section "C"—Excavation and pipe laying 15,000' 24" Cast Iron pipe.

Specifications and plans may be seen and forms of tender obtained at the office of the Water-Works Commission, at the City Building, James Street.

The Commission reserves the right to reject any or all tenders, or to accept any tender which shall appear in its interest.

ALEX. MILNE,
Superintendent.

St. Catharines, Ont.,
June 14, 1911.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C. June 12, 1911.—Sealed proposals will be received in this office until 3 o'clock p. m. on the 24th day of July, 1911, and then opened for the construction, complete (including plumbing, gas piping, heating apparatus, electric conduits and wiring and lighting fixtures) of the United States Post Office at Bristol, Conn., in accordance with drawings and specifications, copies of which may be obtained from the custodian of site at Bristol, Conn., or at this office at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect.

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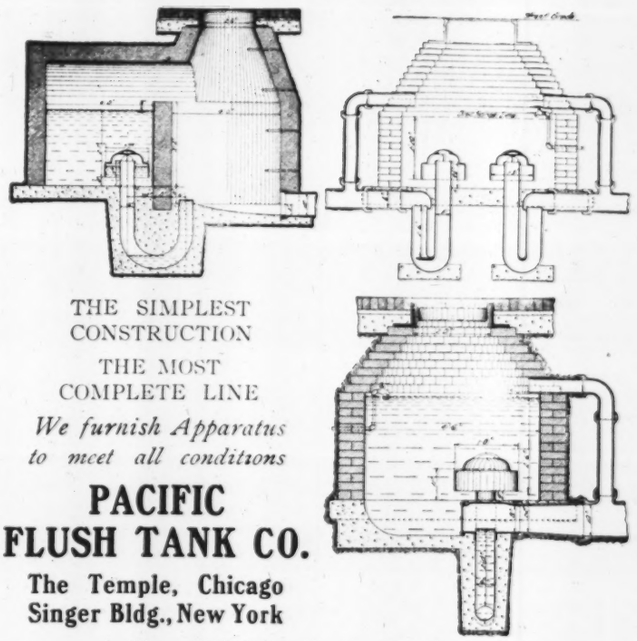
and FOR SEWAGE DISPOSAL



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RIVETED STEEL PIPE, TANKS

For Water, Gas, Sewers, Culverts, Penstocks, Air and Hydraulic Mining, Pontoon, and Shore Pipe for Dredging, Stacks, Caissons, Stand Pipes, etc.

THE CARROLL-PORTER BOILER & TANK CO., Pittsburg, Pa.

THE LEADING GASOLINE TRUCK OF AMERICA

Built in Sizes of 3, 5 or 7 Ton Capacity

Seven-ton "Mack" will deliver 5 yards sand, gravel, stone or brick at one load. With prompt loading facilities, will handle 120 to 150 tons per 10-hour day, an average of 2 miles, costing less than 15c. per ton. Send for Catalog EE, showing 100 installations with details.

MACK BROS. MOTOR CAR CO.

Sales Office and Show Room, 30 Church Street, New York

Main Office and Shops, Allentown, Pa.

U. S. ENGINNER OFFICE, Wheeling, W. Va., June 17, 1911.—Sealed proposals for building six two-story, eight-room lockkeepers' houses, two each at Dams Nos. 12, 19 and 20, Ohio River, will be received at this office until 11 a. m. (Eastern time), July 17, 1911, and then publicly opened. Information on application. F. W. ALTSTAETTER, Major, Engrs.

U. S. ENGINEER OFFICE, Wilmington, N. C., June 1, 1911.—Sealed proposals for constructing, complete, the two (2) wooden hull, non-propelling, 15" Hydraulic Pipe Line Dredges "Neuse" and "Port Arthur" will be received at this office until noon, June 30, 1911, and then publicly opened. Information on application. EARL I. BROWN, Capt. Engrs.

BRICK PAVEMENT.

Olean, N. Y.

Sealed proposals will be received by the Commissioners of Public Works for the improvement of South Third Street of the City of Olean, N. Y., at the office of the City Engineer, City Building, Olean, N. Y., until 8 o'clock P. M., on Thursday evening, July 6, 1911, for the construction of a wire-cut-lug block pavement on concrete foundation in South Third Street, from State Street to Green Street.

The approximate amount of pavement is 5,000 sq. yds. The approximate amount of stone curbing is 3,500 lin. ft.

Plans and specifications may be examined, bid sheet procured and any other information obtained by applying at the office of John H. Gaynor, City Engineer, City Building, Olean, N. Y.

The Commissioners reserve the rights to reject any or all bids.

GEO. H. LUTHER,
D. H. SULLIVAN,
HENRY BAKER,
Commissioners.

JOHN H. GAYNOR, Engineer.

BRICK PAVEMENT.

Olean, N. Y.

Sealed proposals will be received by the Commissioners of Public Works for the improvement of Washington Street of the City of Olean, N. Y., at the office of the City Engineer, City Building, Olean, N. Y., until 8 o'clock P. M., on Wednesday evening, July 5, 1911, for the construction of a wire-cut-lug block pavement on concrete foundation in Washington Street, from Fourth Street to Thirteenth Street.

The approximate amount of pavement is 9,800 sq. yds. The approximate amount of stone curbing is 6,000 lin. feet.

Plans and specifications may be examined, bid sheet procured and any other information obtained by applying at the office of John H. Gaynor, City Engineer, City Building, Olean, N. Y.

The Commissioners reserve the rights to reject any or all bids.

GEO. H. LUTHER,
C. E. PENNOCK,
F. B. DUNMORE,
Commissioners.

JOHN H. GAYNOR, Engineer.

U. S. ENGINEER OFFICE, 537 Congress Street, Portland, Maine, June 14, 1911.—Sealed proposals for dredging in Saco River, Maine, will be received at this office until 12 M., July 17, 1911, and then publicly opened. Information on application. W. E. CRAIGHILL, Lieut.-Col., Engrs.

U. S. ENGINEER OFFICE, Newport, R. I., June 9, 1911.—Sealed proposals for dredging harbors at New Bedford and Fairhaven, Mass., will be received here until 2 p. m., July 11, 1911, and then publicly opened. Information on application. FREDERIC V. ABBOT, Col. Engrs.

U. S. ENGINEER OFFICE, Galveston, Texas, June 8, 1911.—Sealed proposals for dredging deep-water harbor at Harbor Island, Aransas Pass, Texas, will be received at this office until 12 m., July 8, 1911, and then publicly opened. Information on application. G. P. HOWELL, Major, Engrs.

U. S. ENGINEER OFFICE, Savannah, Ga., June 12, 1911.—Sealed proposals for furnishing and placing stone for raising the training wall in Brunswick Harbor, Ga., will be received at this office until 12, noon (Eastern Standard Time), July 12, 1911, and then publicly opened. Information on application. DAN C. KINGMAN, Colonel, Engineers.

U. S. ENGINEER OFFICE, Dallas, Tex., June 15, 1911.—Sealed proposals for iron and steel delivered at Kleburg, Texas, on the Texas & New Orleans Railway, will be received here until 12 M., July 15, 1911, and then publicly opened. Information on application. T. H. JACKSON, Capt., Engrs.

U. S. ENGINEER OFFICE, Savannah, Ga., June 5, 1911.—Sealed proposals for dredging refractory material in harbor at Brunswick, Ga., will be received at this office until 12 noon (Eastern standard time), July 5, 1911, and then publicly opened. Information furnished on application. DAN C. KINGMAN, Colonel, Engineers.

U. S. ENGINEER OFFICE, Dallas, Tex., June 5, 1911.—Sealed proposals for jetty work at Sabine Pass, Tex., will be received here until 12 m, July 5, 1911, and then publicly opened. Information on application. T. H. JACKSON, Capt. Engrs.

For Additionnal
PROPOSAL
Advertisements
See page 50

Have You Seen "REACTIONS," The Thermit Quarterly? If Not, Write For A Copy To-day

IT WILL be sent to you free of charge, and is brim full of useful information on general repair work and welding. It contains many illustrations of interesting repairs carried out during the last three months by the **Thermit Process**, and it is quite probable that you will find descriptions and photographs which will give you ideas of how to save money on your own repair work.

The last issue also contains some valuable contributed articles on metallurgy and methods for improving the quality of iron, steel and brass. Other articles show what is being accomplished in the large repair shops on the Panama Canal.

No engineer can afford to be without this paper, and we will be glad to send it on request.

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WILLIAM C. CUNTZ, GENERAL MANAGER

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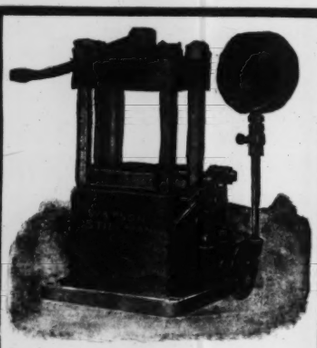

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The press is small—only 27 inches high—inexpensive compared to other testing apparatus, powerful enough to exert a compression of 30 tons and can be carted around right to the job. Men are naturally careful when they know that their work is being checked, so that tests with this press facilitate quick determination of faults in the mixture or in the cement.

Compression is the logical test for concrete, and now that specimen cubes or cylinders of practical size can be handled so easily and the results determined so accurately, every contractor can well afford to give this matter and this press serious attention. Write for literature.

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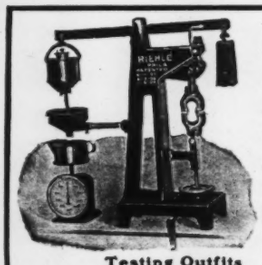


Riehle Automatic Cement Testing Machine Patented

Testing Outfits

1424 North 9th Street, Philadelphia, Pa.

DEPARTMENT OF THE INTERIOR, Washington, D. C., June 10, 1911.—Sealed proposals in duplicate will be received at this Department until 2 o'clock p. m., Monday, July 3, 1911, for the installation of coal and ash-handling machinery in the old post office department building, Washington, D. C., in accordance with specifications and drawings, copies of which may be had upon application to the Chief Clerk of the Department. The right is reserved to reject any or all bids, to waive technical defects and to accept one part and to reject the other part if desirable. Proposals should be securely enveloped and marked "Proposals for coal and ash-handling machinery," and be addressed to the Secretary of the Interior, Washington, D. C. CARMI A. THOMPSON, Assistant Secretary.

BARGE CANAL.

STATE OF NEW YORK,

Office of the Superintendent of Public Works,

Albany, June 20, 1911.

Notice to Contractors:

Sealed proposals will be received by the undersigned at his office in the Capitol in Albany, N. Y., until 12 o'clock noon, of Tuesday, July 25, 1911, at which place and hour they will be publicly opened and read, for improving the New York State Canals pursuant to the provisions of chapter 147 of the Laws of 1903 and of the acts amendatory thereto, as follows:

1.

CONTRACT NO. 86.

Erie Canal—Section 3.

For the reconstruction of a portion of the bridge between the villages of Canajoharie and Palatine Bridge. Sheets 1 to 6, inclusive.

2.

CONTRACT NO. 88.

Champlain Canal—Section 1.

For the reconstruction of a portion of the bridge crossing the Hudson River at Schuylerville. Sheets 1 to 4, inclusive.

Plans may be seen and detailed specifications, engineers' estimate of quantities, proposal blanks, form of contract and bonds required and other information for proposers may be had at the office of the Superintendent of Public Works at Albany, N. Y., at the office of the Assistant Superintendent of Public Works for the Middle Division at Syracuse, N. Y.; at the office of the Assistant Superintendent of Public Works for the Western Division at Rochester, N. Y.; and at the canal office, Spaulding's Exchange, Buffalo, N. Y.

Copies of detailed plans or drawings may be obtained from the State Engineer and Surveyor at Albany, N. Y., upon payment to him of the cost of producing them.

Monthly estimates will be paid of ninety per centum (90%) of the work done at the contract price. Every proposal for said work must be accompanied by a money deposit in the form of a draft or certified check upon some good banking institution in the city of Albany or New York, issued by a national or State bank in good credit within the State and payable at sight to the Superintendent of Public Works for five per centum (5%) of the amount of the proposal.

The person whose proposal shall be accepted will be required to execute a contract and furnish bonds within ten days from the date of notice of award delivered to him or them in person or mailed to the address given in the proposal.

Upon execution of the contract and approval of bonds, the certified check or draft will be returned to the proposer unless the same shall have been presented for collection prior to such time, in which case the amount of the deposit will be refunded by the Superintendent of Public Works.

The deposits of bidders other than the one to whom the award of contract shall be made will be returned immediately after the award has been made.

The amount of bond required for faithful performance will be ten per centum (10%) of the amount of the estimated cost of the work according to the contract price, and an additional bond, known as the labor bond, in the sum of ten per centum (10%) of the amount of the estimated cost of the work according to the contract price, will be required as security that the contractor will pay in full at least once in each month all laborers employed by him upon the work specified to be done in the contract.

In the event that more than one surety company is offered as surety on said bonds, co-insurance only will be accepted.

Each proposal must be addressed to the Superintendent of Public Works, Albany, N. Y., and must be endorsed on the envelope with the name of the construction for which the proposal is made.

Award, if made, will be made to the person or persons whose proposal shall be lowest in cost to the State for the work, and which shall comply with all provisions required to render it formal. Before any award shall be made the lowest bidder will be required to satisfy the Superintendent of Public Works of his ability to provide such equipment and materials for the prompt performance of the work.

The right is reserved to reject all proposals and readvertise and award the contract in the regular manner if, in the judgment of the undersigned, the interests of the State will be enhanced thereby.

CHARLES E. TREMAN,
Superintendent of Public Works.

RAILWAY ROADBED.

El Paso, Texas, June 19, 1911.

Bids will be received in accordance with forms prepared by this Company until the 25th day of July, 1911, for the construction of the graduation and masonry of 66 miles of railway roadbed, including incidental work, in Arizona. The principal items are, approximately: Grading, 2,600,000 cu. yds.; foundation excavation, 30,000 cu. yds.; concrete, 35,000 cu. yds. Work to be done in accordance with plans and specifications on file in the office of the Engineer Maintenance of Way, Southwestern Bldg., El Paso, Texas.

All bidders are required personally to examine the ground and conditions prior to bidding. The proposed work will be ready for inspection beginning June 25, 1911.

All bids must be in writing, addressed to said Engineer, and be accompanied by a certified check in the sum of $5,000 as evidence of good faith and security for the giving of a bond for $100,000 in a Surety Company approved by the Company for the performance of the contract.

The envelope containing the bid shall be endorsed as such bid and have the name of the bidder written thereon.

The Company reserves the right to reject any or all bids.

EL PASO & SOUTHWESTERN RAILROAD COMPANY,

By H. J. SIMMONS,
General Manager.

SUPERSTRUCTURE, ETC.

Cincinnati, Ohio.

Sealed proposals will be received at the office of the Director of Public Service, City Hall, Cincinnati, Ohio, until 12 o'clock noon of Wednesday, July 19, 1911, for the construction of the superstructure and miscellaneous work in connection thereof for the Gilbert Ave. Viaduct.

Plans, specifications and blank proposals can be obtained at the office of the Chief Engineer of the Department of Public Service.

Each proposal must contain the full name of the party or parties making the same and all persons interested therein, and must be accompanied by a bond in the sum of $20,000, or a certified check on a solvent bank, as a guaranty that if the proposal be accepted a contract will be entered into.

Should any proposal be rejected, such check will be returned to the bidder, and should any proposal be accepted such check will be returned upon the proper execution and securing of the contract.

Bidders must furnish satisfactory evidence of their ability to do the class of work required.

Bidders must use the printed forms as none other will be received.

The Director of Public Service reserves the right to reject any or all bids.

Bidders will be required to deposit the sum of $10 in cash before receiving plans and specification; this will be refunded if a formal bid is received. By order of the Director of Public Service.

JOHN J. WENNER, Clerk.

June 20, 1911.

For Additionnal

PROPOSAL

Advertisements

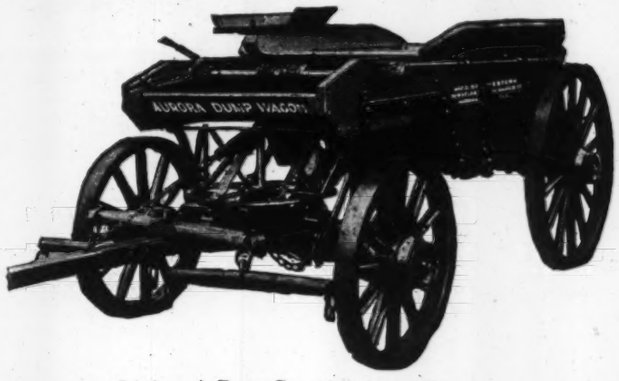
See page 51

HIGH-GRADE FIRE BRICK

A good article is worth its price—Our No. 1 are No. 1
Recollections of quality remain long after matter of price is forgotten.

HENRY MAURER & SON, 422 East 23d St., New York

AURORA DUMP WAGON



Strong yet Light—A Rare Combination. The 1911 model contains many desirable features which place this wagon in a class by itself. *Send for Catalog.*

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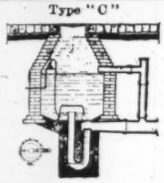
Earth and Stone Handling Machinery **AURORA, ILLINOIS**

Type "C"



Standard Five Inch Siphon

Merritt Water Saving Flush Tanks

AUTOMATIC

With Moise Air Jet and Water Regulator

Satisfactory operation fully guaranteed.

Write or telegraph for prices.

Delivered anywhere in the United States.

MERRITT & COMPANY, 123 N. Front Street, Camden, N. J.

New York, Boston, Chicago, Atlanta, Kansas City, St. Louis, Cleveland and other large cities.

6 points about our Rocker Dump Car

1—Frame one piece channel, strongly reinforced.

2—Wheels heavily chilled with deep flange and wide tread.

3—Standard roller bearings, reducing friction to the minimum, thus enabling one man to push loaded car.

4—Rocker runway braced at end by two angle irons.

5—Dumping angle 45°. This insures a clean dump.

6—Body rights itself automatically.

These features are the result of actual working experience, and not based upon theory. Adaptable to any kind of work. Stock sizes 24 inches to 36 inches gauge of track and 18 to 54 cu. ft. capacity. Specials to order. We carry a large stock of Rails, Portable Track, Frogs, Switches, Turntables, Cars, etc.

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RAILROAD SPECIALISTS FOR ALL INDUSTRIES.

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BOSTON PHILADELPHIA DENVER, COL. SAN FRANCISCO

Agents for Industrial Locomotives of the Baldwin Locomotive Works

LEWIS & KITCHEN, Engineers and Contractors for the Designing and Construction of

GARBAGE CREMATORIES

SEPTIC TANKS **SEWAGE DISPOSAL WORKS**

901 Broadway, Kansas City, Mo. 1200 Michigan Ave., Chicago, Ill.

The Best Protection to Life and Property when Blasting

Recommended by Leading Contractors

These Mats are made of 1", 1¼" and 1½" Diameter Rope

For particulars write to

Anchor Blasting Mat & Rope Co.

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Garbage Disposal Plants

DRYERS, CONDENSERS AND PERCOLATORS
ELEVATORS, CONVEYORS AND TANKS

Complete Plants for Large or Small Cities

THE C. O. BARTLETT AND SNOW CO.

Cleveland, Ohio, U. S. A.

A. J. MORSE & SON, Inc., 221 High Street BOSTON, MASS.

Established 1837 **DIVING APPARATUS**

LATEST DESIGNS. Orders filled day received

Special apparatus built to order

STREET IMPROVEMENT.

Westfield, N. J.

Sealed proposals for improving a section of North Ave. in the Town of Westfield, N. J., will be received by the Council of the Town of Westfield, N. J., at the Town Rooms, No. 121 Prospect St., Westfield, N. J., on Monday, July 17, 1911, at 8.15 o'clock P. M.

The Engineer's approximate estimate of quantities is as follows:

7,000 cu. yds. of Excavation.
5,500 sq. yds. of 6-in. Bituminous Macadam.
4,500 lin. ft. of Underdrains.
270 lin. ft of Concrete Culverts.

Each proposal must be accompanied by a certified check for $500 drawn to the order of the Treasurer of the Town of Westfield, N. J., signed by the bidder and without condition or endorsement of any kind, as an evidence of good faith, and the successful bidder will be required to furnish a bond of $5,000, with sureties acceptable to the Council to guarantee the faithful performance of the contract.

Plans, profiles and forms of proposal, contract, specifications and bond may be obtained at the office of A. W. Vars, Town Engineer, 121 Prospect St., Westfield, N. J.

The Council reserves the right to reject any or all bids.

CHARLES CLARK,
Town Clerk.

Westfield, N. J., June 19, 1911.

NOZZLES, ETC.

OFFICE OF THE SEWERAGE COMMISSION OF THE CITY OF BALTIMORE.

Sealed proposals, indorsed "Proposal for Nozzles for Sprinkling Filters at Sewage Disposal Works, Sanitary Contract No. 68," addressed to the Board of Awards of Baltimore City, will be received at the office of the City Register, City Hall, Baltimore, Md., until 11 A. M., Wednesday, July 5, 1911, for furnishing and delivering nozzles, deflectors and special castings for the sprinkling filters at the Sewage Disposal Works, located on the west shore of Back River, Baltimore County, Md.

Specifications can be obtained upon application at the office of the Sewerage Commission, Room 904, American Building, Baltimore, Md.

A certified check for the sum of $250, on a clearing house bank, made payable to the order of the Mayor and City Council of Baltimore, will be required to be deposited with each bid.

Approximate Quantities.

1,200 Nozzles and Deflectors.
1,200 Special Castings.

The successful bidder on this contract will be required to give bond and comply with the City Charter respecting contracts.

The Board of Awards reserves the right to reject any and all bids.

By order of the Sewerage Commission.

CHARLES ENGLAND, Chairman.
HARRY W. RODGERS, Secretary.

Approved:

JAMES H. PRESTON,
President, Board of Awards.

WATER TUBE BOILERS.

Clarksburg, W. Va.

Sealed proposals will be received by the Water Works and Sewerage Board of Clarksburg, W. Va., at the office of the Secretary, Scott G. Highland, until 12 o'clock, noon, July 24, 1911, for furnishing and erecting two 200-HP. water tube boilers complete including 80-ft. steel stack, steam and water connections and other appurtenances.

Plans and specifications can be seen and blank forms of proposal obtained at the office of the Secretary and of the Engineers, Hering & Fuller, 314 Oak Hall Building, Clarksburg, W. Va., after July 1, 1911.

A certified check in the sum of $500 must accompany each proposal, and the Water Works and Sewerage Board reserves the right to reject any or all bids.

W. H. LEWIS, President.
SCOTT G. HIGHLAND,
Secretary.

HERING & FULLER, Engineers.

For Additionnal
PROPOSAL
Advertisements
See page 52

NEW YORK OFFICE: 50 Church St.

OLIVER DUMP & SPREADER CARS

THE Wm J. OLIVER MFG. CO. KNOXVILLE, TENN.

Parsons Trench Excavator

is not a one-sided proposition—we construct a PARSONS EXCAVATOR so as to make money for the contractor as well as ourselves, and even the purchase or first price of a PARSONS is a large saving to you.

Greatly Increased Profits

are assured by a Parsons Excavator, over any other method, in any soil and any size trench between 28 and 78 inches and any depth to twenty feet. The Parsons is constructed entirely of such high quality steel and built so thorough that your profits are *not* eaten up by repair accounts. The buckets are self cleaning and equipped with extra quality steel that will actually cut anything but solid rock.

Let us show you how you can actually increase your profits from 25 to 50% on all your trench work.

Write today for catalog descriptive of Parsons Traction Trench Excavator

THE G. W. PARSONS COMPANY = = Newton, Iowa

GEO. F. LAMBERT, *Sales Manager*

TOPOGRAPHICAL DRAFTSMAN.

Municipal Civil Service Commission, 299 Broadway, New York, June 12, 1911.

PUBLIC NOTICE IS HEREBY GIVEN that applications will be received from TUESDAY, JUNE 13, UNTIL 4 P. M., TUESDAY, JUNE 27, 1911, for the position of

TOPOGRAPHICAL DRAUGHTSMAN.

No application delivered at the office of the Commission, by mail or otherwise, after 4 P. M., June 27, will be accepted.

The examination will be held on Wednesday, July 19, 1911, at 10 A. M.

The subjects and weights are: Technical, 5; Experience, 2; Mathematics, 2; Neatness, 1; 75% required on technical paper and 70% in all.

Minimum age, 21 years. Vacancies, 8 in office of President of Borough of Queens and 3 in Department of Taxes and Assessments, at $1,200 per annum.

Salary, $1,200 per annum and upwards.

F. A. SPENCER, Secy.

GRADING, ETC.

Northumberland, Pa.

Sealed proposals for the grading, curbing and paving of Front Street in Northumberland, Pa., will be received by the Town Council, at the Council Chambers, up to 8 o'clock p. m., of the 3d day of July, 1911, to be addressed to Charles H. Dodge, Clerk, and endorsed "Proposals for Street Improvement under Ordinance approved April 24, 1911."

The work for which proposals are invited consists of approximately 3,102 square yards of pavement of vitrified brick; 1,275 lineal feet of stone curb, excavation, 1,200 cubic yards; concrete, 13 cubic yards. This yardage includes the area at street and alley intersections as far as the building line of Front Street on said intersecting streets and alleys.

Each proposal must be accompanied with a certified check in the sum of $500, drawn on the Northumberland National Bank, Northumberland, Pa., and made payable to the Borough Treasurer. This check will be returned to the contracting party immediately upon the rejection of his bid or upon his entering into written contract and filing of his bond in approved amount with approved sureties for the faithful performance of the contract. But the check shall be forfeited to the Borough of Northumberland in the event of the Contractor neglecting or refusing to enter into contract and give bond as hereinafter specified, not as a penalty, but as just and liquidated damages for delays or additional costs or expenses incurred by the Borough owing to his failure to accept the award and execute the contract and give bond as required.

Specifications and blank forms of proposals can be obtained by application to the Clerk of the Town Council or the Engineer.

The right is reserved to reject any or all bids or to award any part of the proposed work to any bidder, as may seem best for the interests of the Borough.

By order of the Burgess and Town Council of Northumberland, Pa.

CHARLES H. DODGE,
Clerk of Council,
Northumberland, Pa.

WALTER S. HINE,
Borough Regulator,
Northumberland, Pa

MAIN INTERCEPTING SEWER

Fitchburg, Mass.

Sealed proposals will be received by the Board of Sewage Disposal Commissioners, at their office, 352 Main Street, Fitchburg, Mass., until 3 o'clock p. m., Tuesday, July 11, 1911, for the following work:

2,928 linear feet earth excavation and refilling in trench for 45-inch concrete sewer.
50 cubic yards rock excavation.
490 square yards brick masonry in sewer invert.
23 cubic yards brick masonry in manholes.
1,250 cubic yards concrete masonry in trench.
40,000 lbs. steel bars for reinforcing concrete.

Each proposal must be accompanied by a certified check for the sum of $2,500, drawn on a national bank or trust company established in the City of New York or some city in the State of Massachusetts, made payable to the City of Fitchburg, as security that if the proposal is accepted the contract will be entered into.

Plans and specifications may be obtained at the office of the Commission.

The right is reserved to reject any and all bids or to accept any bid should the Commissioners deem it for the interest of the city so to do.

ARTHUR H. LOWE,
DAVID M. DILLON,
DANIEL A. BOYLE,
Board of Sewage Disposal Commissioners.

DAVID A. HARTWELL,
Chief Engineer.

SEWER CONSTRUCTION.

OFFICE OF THE COMMISSIONERS OF SEWERAGE OF LOUISVILLE, KY.
Incorporated.

Sealed proposals for the construction of the "Long Avenue Sewer," Contract No. 81, will be received at the office of the Commissioners of Sewerage, 605 Equitable Bldg., Louisville, Ky., until 12 o'clock noon, July 7th, 1911.

The work consists mainly of the construction of 5,245 ft. of vitrified pipe sewer, ranging in size from 10" to 22"; average depth of cut 8.5 ft.; about 300 cu. yds. rock and 45 cu. yds. concrete.

Sealed bids should be endorsed "Proposal for Long Avenue Sewer," and addressed to the Commissioners of Sewerage, Equitable Bldg., Louisville, Ky. Each bid must be accompanied by a certified check for at least seven per cent. (7%) of the total amount of the bid, or a "Bidder's Bond," as described in the form of proposal.

Plans and specifications may be seen at the office of Harrison P. Eddy, Consulting Engineer, 14 Beacon St., Boston, Mass., or at the office of the Commissioners of Sewerage.

P. L. ATHERTON, Chairman.
CHAS. P. WEAVER, Secy. & Treas.
J. B. F. BREED, Chief Engineer.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C.—June 9, 1911.—Sealed proposals will be received in this office until 3 o'clock p. m. on the 21st day of July, 1911, and then opened, for the construction, complete (including plumbing, gas piping, heating apparatus, electric conduits and wiring and lighting fixtures), of the United States Post Office at Alpena, Michigan, in accordance with drawings and specifications, copies of which may be obtained from the Custodian of site at Alpena, Mich., or at this office at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect.

U. S. ENGINEER OFFICE, Kansas City, Mo., June 3, 1911.—Sealed proposals for constructing standard revetment on Missouri River, about eighteen miles below Kansas City, Mo., will be received here until 12 noon, July 3, 1911, and then publicly opened. Information on application. EDWARD H. SCHULZ, Major, Engrs.

U. S. ENGINEER OFFICE, 537 Congress Street, Portland, Me., June 16, 1911.—Sealed proposals for dredging in Pepperells Cove, Maine, will be received at this office until 12 m. July 17, 1911, and then publicly opened. Information on application. W. E. CRAIGHILL, Lieut.-Col., Engrs.

U. S. ENGINEER OFFICE, Newport, R. I., June 17, 1911.—Sealed proposals for dredging in Pawtucket River, R. I., will be received here until 2 p. m., July 18, 1911, and then publicly opened. Information on application. FREDERIC V. ABBOT, Col., Engrs.

U. S. ENGINEER OFFICE, New London, Conn., June 7, 1911.—Sealed proposals for dredging Saybrook Bar, Connecticut River, Conn., will be received here until 3:00 p. m., July 7, 1911, and then publicly opened. Information on application. A. E. WALDRON, Captain, Engineers.

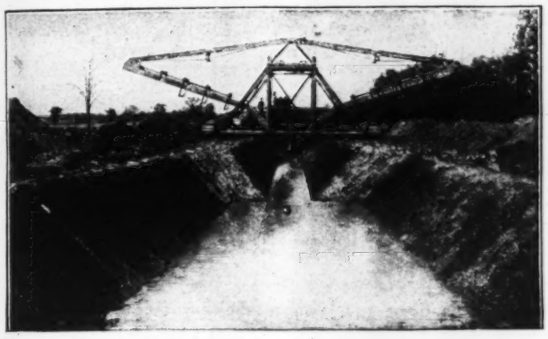
WAR DEPARTMENT, U. S. Engineer Office, Montgomery, Ala., June 6, 1911.—Sealed proposals for dredging at mouth of Apalachicola River, Florida, will be received at this office until one o'clock p. m., July 6, 1911, and then publicly opened. Information on application. G. D. FITCH, Lt.-Col., Engrs.

For Additionnal
PROPOSAL
Advertisements
See page 33

"Ditches for irrigation, drainage, and power purposes should be made their full size, and their banks sloped and dressed."

THIS QUOTATION from an elaborate article on ditch work by an engineer and contractor of long experience is only one of several statements in which the author insists on the necessity and economy of sloped and dressed banks. They prevent caving and sloughing; they reduce erosion by rain and frost; they give a smoother conduit, and, therefore, increased flow; they permit lining being placed easily and cheaply. The

AUSTIN DRAINAGE EXCAVATOR



Ditch Being Dug with Sloping Banks—An Austin Drainage Excavator
Ditch showing variations in width made by same machine

digs a drainage ditch with sloping sides complete in one operation—it is the only excavating machine that does this. The accompanying engraving from a photograph shows an Austin Drainage Excavator ditch. Candidly, did you ever see a more **perfect example of ditch work?** We can show **hundreds of others just as perfect** and give records of cost and speed of digging them.

SEND FOR CATALOGUE "C"

OUR FULL LINE COMPRISES

The Austin Drainage Excavator
The Austin Levee Builder
The Austin Drag Line Excavator
The Austin Side Hill Ditcher
The Austin Highway Ditcher
The Austin Orange Peel Ditcher
The Austin Sewer and Water Works Excavator
The Austin Pipe Line Excavator
The Austin Tile Ditcher
The Austin Stump Puller and Grubber

The above can be mounted on a float, on wheels, skids, track rail, or rolling platform traction, as desired.

F. C. Austin Drainage Excavator Co.

RAILWAY EXCHANGE, CHICAGO, ILL., U. S. A.

AGENTS WANTED IN UNOCCUPIED TERRITORY

SEWAGE DISPOSAL PLANT IMPROVEMENTS.

Sonyea, N. Y.

Sealed proposals for alterations to sewage disposal plant at Craig Colony for Epileptics, Sonyea, N. Y., will be received by Percy L. Lang, President of the Board of Managers, Craig Colony for Epileptics, Sonyea, N. Y., until 2 P. M., July 11, when they will be opened and read publicly.

Proposals shall be accompanied by a certificed check in the sum of $150, and the contractor to whom the award is made will be required to furnish surety company bond in the sum of $1,500, within thirty days after notice of award of contract and in accordance with the terms of specification No. 1372. The right is reserved to reject any or all bids.

Drawings and specifications may be consulted and blank form of proposal obtained at Craig Colony for Epileptics, Sonyea, N. Y., and at the office of the State Architect. Complete sets of plans and specifications will be furnished to prospective bidders upon reasonable notice to and in the discretion of the State Architect. FRANKLIN B. WARE, Albany, N. Y.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., June 16, 1911.—Sealed proposals will be received in this office until 3 o'clock P. M., on the 28th day of July, 1911, and then opened, for the construction, complete (including plumbing, gas piping, heating apparatus, electric conduits and wiring and interior lighting fixtures of the U. S. Post Office at Rock Springs, Wyoming, in accordance with drawings and specification, copies of which may be obtained from the Custodian of site at Rock Springs, Wyo., or at this office, at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect.

STEAM SHOVEL EXCAVATION.

Details regarding the subletting of a 100,000-yards gravel excavation job will be given on receipt of applications from contractors. Revolving shovel outfit preferred.

WALTER C. FOSTER,
Lake Altoona, R. F. D. No. 2,
Altoona, Pennsylvania.

STREET IMPROVEMENTS.

Tarboro, N. C.

Sealed proposals will be received by the Street Paving Committee of Tarboro, N. C., until 4 p. m., July 7, 1911, for improving Main Street. The work will consist of about 25,000 sq. yds. of 8-inch bituminous macadam and a small amount of cement sidewalk, drainage, etc. Alternate bids will be considered on 8,000 sq. yds. vitrified brick paving on concrete base and 17,000 sq. yds. bituminous macadam.

Plans and specifications will be on file at the office of the Clerk at Tarboro, N. C., and at the office of the Engineer at Durham, N. C., and copies of specifications, form of proposal, etc., may be obtained from the Engineer at Durham, N. C.

Certified check for $500.00 required as an evidence of good faith.

The right is reserved to reject any or all bids.

W. O. HOWARD, Mayor.
JNO. A. WEDDELL, Clerk.

Engineer:
GILBERT C. WHITE,
Durham, N. C.

BOILERS.

Kansas City, Mo.

Sealed proposals will be received by the Purchasing Agent of Kansas City, Mo., until 2 o'clock P. M., of July 12, 1911, for the design, manufacture and installation of a battery of water tube boilers, according to plans and specifications on file with the Board of Fire and Water Commissioners.

E. B. HARRINGTON
Secretary Board of Fire and Water Commissioners, Kansas City, Mo.

U. S. ENGINEER OFFICE, Jacksonville, Fla., June 17, 1911.—Sealed proposals for dredging in Hillsboro Bay, Fla., will be received at this office until 12 m., July 17, 1911, and then publicly opened. Information on application. GEORGE R. SPALDING, Capt., Engrs.

For Additionnal
PROPOSAL
Advertisements
See page 54

CONTRACTORS SHOULD KNOW

THE BUCKEYE TRENCH EXCAVATOR

EVERY contractor should acquaint himself with the **BUCKEYE TRENCH EXCAVATOR,** a machine of vital importance to his business.

The **BUCKEYE** replaces a gang of 100 to 150 men; only two or three men being required to operate it.

The excavating is truer and of perfect grade, and costs 25% to 50% cheaper than hand labor. No labor conditions to contend with; no expensive timekeeping, and you complete your contract on time.

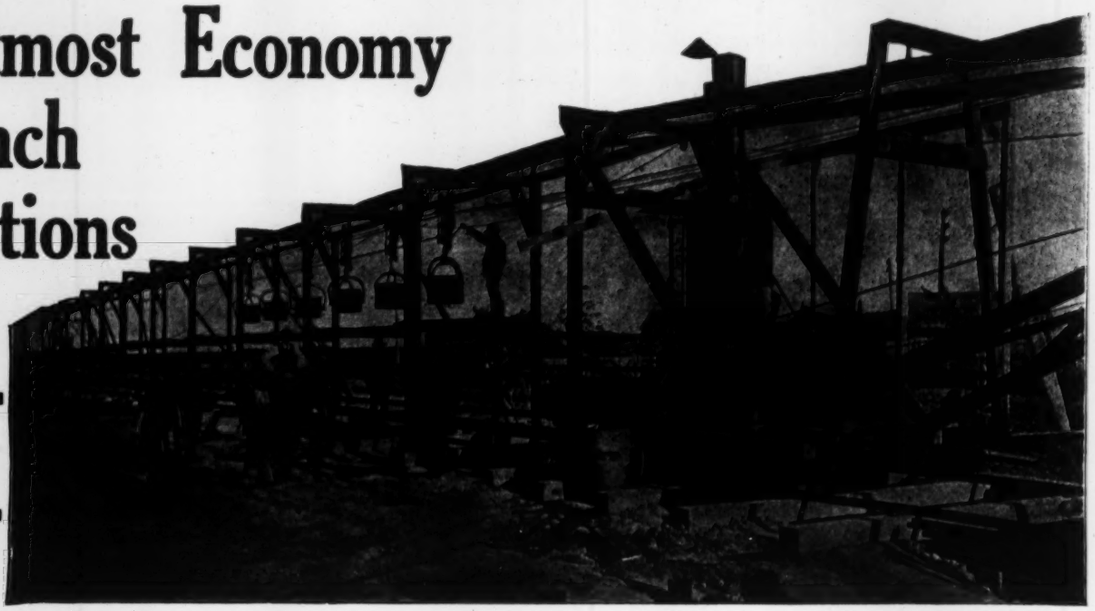
For any contracting, such as sewer, water works and gas, it is a machine that has no competition.

Built with either single or double dirt conveyors, so that the dirt can be delivered on one or both sides in narrow alley work. The **BUCKEYE** cuts the earth so finely that back filling is easy.

Write today for our Catalogue 11

THE BUCKEYE TRACTION DITCHER CO.
Findlay, Ohio

The Utmost Economy In Trench Excavations



When you've got a trench digging job, it means either a loss or a profit on the work, according to how you handle it. We can show you where you can save about half the usual cost in the excavation on this class of work. **Carson Trench Machines** have been responsible for turning losses into profits. We'll sell you one of these machines outright or lease it to you. Anyway, write and ask for particulars. We'll quote prices and tell you what success other contractors have had with these machines. Our new "Picture Book" is sent upon request.

The Carson Trench Machine Co., Boston, Mass.

EARTH DAM, ETC.

Waynesville, N. C.

Sealed proposals will be received by the Southern Assembly for the erection of an earth dam and appurtenances, on the Assembly Grounds near Waynesville, North Carolina, until noon, on July 24, 1911. Specifications and general plans may be seen at office of Chief Engineer Southern Assembly, Waynesville, N. C., and at Engineering News, New York and Chicago, where bidding sheets may be obtained.

Bidders are expected to examine the site and acquaint themselves with the local conditions. Certified check (or bond) for five hundred dollars ($500) drawn in favor of Southern Assembly must accompany each bid as evidence of good faith.

The Southern Assembly reserves the right to reject any and all bids.

J. W. SEAVER, JR., Ch. Engr.,
Waynesville, N. C.

BRIDGE.

Fitchburg, Mass.

Sealed proposals, addressed to the Board of Street Commissioners, of the City of Fitchburg, Mass., and endorsed "Proposals for the Construction of the Fifth Street Viaduct," will be received by the said Board of Street Commissioners, at the office of the City Engineer, Clerk of the Board, Fitchburg, Massachusetts, until five p. m. of Monday, the seventeenth day of July, 1911, and on that day at 7:30 p. m. will be publicly opened and read. The entire work is to be let in one contract.

Each bidder must make a personal examination of the location of the site of the viaduct.

Each bid must be accompanied by a certified check for five thousand dollars ($5,000), payable to the City of Fitchburg; said check to be returned to the bidder unless he fails to execute the contract, should it be awarded him.

A bond for twenty-five thousand dollars ($25,000) will be required for the faithful performance of the contract, the surety to be a substantial surety company, satisfactory to the Board of Street Commissioners and authorized by law to do business in the state of Massachusetts.

Prices proposed must cover all the expenses incidental to the completion of the works in full conformity with the specifications and contract.

The engineer's estimates of the quantities of work to be done, are as follows:

Earth excavation, in foundations, 2,500 cubic yards.
Rock excavation, in foundations, 85 cubic yards.
Cinder filling under sidewalks, 190 cubic yards.
Gravel fill on roadway of bridge, 470 cubic yards.
Steel bars for concrete reinforcement, 87.5 tons.
Structural steel, erected in place, 292.5 tons.
Concrete 1:3:5 Class A, 1,176 cubic yards.
Concrete 1:3:5 Class B, 99 cubic yards.
Concrete 1:2½:4½ Class C, 988 cubic yards.
Concrete 1:2½:4½ Class D, 315 cubic yards.
Concrete 1:2¼:4 Class E, 1,566 cubic yards.
Concrete 1:2¼:4 Class F, 88 cubic yards.
Hand rails, erected, complete, 1,378 lineal feet.
Scrubbing concrete surfaces, 1,500 square feet.
Painting concrete surfaces, 15,000 square feet.
Storm water inlets and drain pipes, 2.
Electric conduits, 1,378 duct feet.
Lamp posts, single lights, 8.
Lamp posts, cluster lights, 6.
Electric wiring.

These quantities are approximate only, and the City of Fitchburg expressly reserves the right of increasing or diminishing the same as may be deemed necessary by its Engineer.

Plans may be seen and specifications and forms of proposals obtained at the office of Timothy J. Sheehan, City Engineer, Fitchburg, Mass., and at the office of James H. Fuertes, Consulting Engineer, 140 Nassau Street, New York City, upon making a deposit of twenty-five ($25) dollars. This deposit will be given back to the bidder upon the return of the plans and specifications in good condition.

Duplicate bids must be filed at the office of the City Auditor, Frank D. Page.

The board of Street Commissioners reserves the right to reject any or all bids, should they deem it to be for the interest of the City of Fitchburg to do so.

T. J. SHEEHAN, Clerk.

THREE BUILDINGS.

CORNELL UNIVERSITY, ITHACA, N. Y.
STATE OF NEW YORK.

Sealed proposals will be received by the Treasurer of Cornell University, Ithaca, N. Y., up to 12 noon, Saturday, July 15, 1911, at which time they will be opened and read publicly at the Treasurer's Office, for the entire work comprised in three fireproof buildings for the

NEW YORK STATE COLLEGE OF AGRICULTURE, Ithaca, N. Y.

Each proposal shall be accompanied by a certified check or cash deposit, in an amount equal to five per cent. of the amount of each proposal, and the contractors to whom the awards are made will be required to furnish one or more surety bonds in an amount equal to 50 per cent. of the amount of the contract, within 30 days from date of notice of award of contract. Failure to furnish bond within the specified time will cancel the notice of award and cause forfeiture of certified check or cash deposited with bid.

The State reserves the right to reject any or all bids.

On and after June 23rd, 1911, drawings, specifications and blank forms of proposals may be obtained of Green & Wicks, Architects, 110 Franklin St., Buffalo, N. Y.

A complete set of plans and specifications will be furnished to prospective bidders for the complete work, upon reasonable notice to Green & Wicks, Architects, and upon the payment of a deposit of $25.00, which deposit will be forfeited if the drawings and specifications are not returned in good order to Green & Wicks, Architects.

Plans and specifications will be on file and may be inspected at the office of Franklin B. Ware, State Architect, Capitol, Albany, N. Y.; at the office of the Treasurer of Cornell University, Ithaca, N. Y.; and at the office of Green & Wicks, Architects, 110 Franklin St., Buffalo, N. Y.

E. L. WILLIAMS, Treasurer,
Cornell University, Ithaca, N. Y.
Dated June 22nd, 1911.

TREASURY DEPARTMENT, office of the Supervising Architect, Washington, D. C., June 20, 1911.—Sealed proposals will be received in this office until 3 o'clock P. M. on the 2nd day of August, and then opened for the construction, complete (including plumbing, gas piping, heating apparatus, electric conduits and wiring and lighting fixtures), of the U. S. Post Office at Great Bend, Kansas, in accordance with drawings and specification, copies of which may be obtained from the Custodian of site at Great Bend, Kans., or at this office at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect.

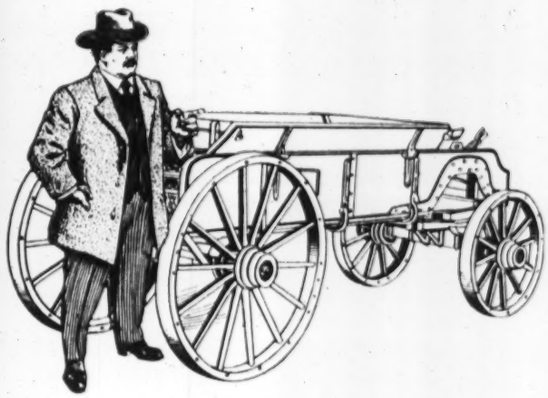
OFFICE, COMMISSIONERS, D. C., Washington, June 20, 1911.—Sealed proposals will be received at this office until 2 o'clock P. M., Thursday, July 6, 1911, for reconstructing the Sand and Gravel Wharf, Water street southwest, between 9th and 10th streets. Forms of proposal, specifications and necessary information may be obtained from Chief Clerk, Engineer Department, Room 427, District Building, Washington, D. C. CUNO H. RUDOLPH, JOHN A. JOHNSTON, WILLIAM V. JUDSON, Commissioners D. C.

U. S. ENGINEER OFFICE, Savannah, Ga., June 26, 1911.—Sealed proposals for furnishing and placing stone for raising the low places in jetties at Cumberland Sound, Ga. and Fla., will be received at this office until 12, noon (Eastern Standard Time), July 26, 1911, then publicly opened. Information on application. DAN C. KINGMAN, Colonel, Engineers.

PROPOSALS FOR STERNWHEEL STEAMBOATS.—Mississippi River Commission, Liggett Building, St. Louis, Mo., June 26, 1911.—Sealed proposals in triplicate for construction and delivery of two 160-ft. sternwheel steamboats will be received here until 12 noon, standard time, July 26, 1911, and then publicly opened. Information on application. CHAS. L. POTTER, Lt.-Col., Engrs., Secy.

For Additionnal
PROPOSAL
Advertisements
See Construction News, page 314

Jim Fellowes Talks



WHY DO THEY CHANGE?

I know dozens of contractors who have changed from various makes of Dumping Wagons to the Watson since the season opened. This happens every year. And why? It isn't because they can buy Watsons cheaper. They can't. Watsons always cost a little more. And there is no lack of extravagant claims for wagons "just as good" as the Watson. So that isn't the reason they come across to the Watson side.

The reason is that the Watson stands the racket. Thousands of eight and ten-year-old Watsons are in use today. No man can dispute the quality of a wagon like that. And no Dump Wagon but the Watson has such a record.

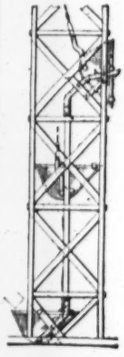
That clears up matters considerably. There is one sure, certain and wise course for you—that is, if you use wagons. Investigate the Watson. Then "the others." Don't forget the others. Meanwhile, I would like to send you the printed matter.

JIM FELLOWES, Canastota, N. Y.

Watson Wagon Co., Canastota, N. Y.

The First Builders of Bottom Dumping Wagons

BRANCH OFFICES: 256 Broadway, New York, N. Y. 604 Witherspoon Bldg., Philadelphia, Pa. 806 Renshaw Bldg., Pittsburg, Pa.



GOING UP—YOUR PROFITS

IF YOU USE THE INSLEY

Automatic Roller Hoists

WE MANUFACTURE ALSO

Combination Hoists with Automatic Bucket, Concrete Spouting, Concrete Carts, Receiving Hoppers, Controllable Side Dump Buckets and Cars, Controllable Center Dump Buckets and Cars, Form Clamps, Derricks, Skips, Car Side Hoppers, etc., etc.

INSLEY MFG. COMPANY

Engineers and Manufacturers INDIANAPOLIS, IND.

An Absolutely Controllable Discharge Bucket

One man can open and close this bucket under load with very little effort.

It discharges perfectly central.

Dowd's Controllable Discharge Bucket. Pat'd.

It is groutproof when closed and self-supporting.

Write for new Catalogue

The Acme Equipment and Engineering Co.

1032 Garfield Bldg., Cleveland, Ohio

SELLING AGENTS

The Barron & Cole Co. New York City
The Standard Supply & Equipment Co., Philadelphia, Pa.
The Chas. F. Beebe Co. Portland, Oregon.
C. A. Cleaver, Houston, Texas

The Blaw System

Pipe Molds
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Retaining Wall Forms
Manhole Centers
Subway Forms
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Sewer Forms
Large Span Arch Ribs
Pavement and Curb Forms
Culvert Molds

Blaw Steel Forms have shown an immense saving in *time, labor* and *money* on over 3,500 concrete jobs.

The experience of the **Pioneer Steel Form Builders** at your service.

Write for information

BLAW BELL END PIPE MOLD

"The Water Supply of New York City" A book 6" x 9", 150 pages. 75 illustrations. Mailed on receipt of this clipping and fifty cents to cover cost of printing.

Blaw Collapsible Steel Centering Co.

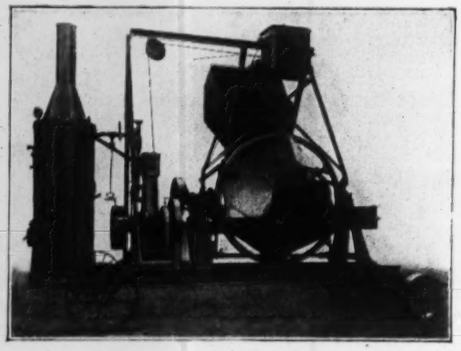
General Offices, PITTSBURG, PA.

New York Office, 165 Broadway
Chicago Office, 1008 Ashland Block

The Standard of Quality

versus

The Time Limit



Ever look over the sporting offers made by some mixer manufacturers—claiming to clip so many seconds off each other's **speed records**—and then begin to wonder just where they stood on the **concrete** question? Or try to puzzle out just why there were so many different combinations of blades, etc., in the drum types that didn't make the high speed records, but each **claimed** to turn out the best quality concrete? The answer is that quality will not go with excessive quantity and that the reason for variance in the drum types is a matter of trying to perfect a **fundamentally incorrect principle.** That is logic.

Concrete mixing is not a matter of grinding blades—no one mixes dough with an egg-beater.

Concrete and dough are alike in this respect—that each is a pasty material and each requires **kneading.** The Chicago Improved Cube Mixer applies that principle—the **original** principle of concrete mixing embodied in a modern machine discharging at a speed equal to the speed of the best mixers in the field.

Ask for Catalogue No. 2

Municipal Engineering and Contracting Company, Railway Exchange, CHICAGO, ILL.

NEW YORK OFFICE, 30 Church St. NEW ENGLAND AGENTS, Dyar Supply Co., 510 Main St., Cambridge, Boston. WEST PENNA. REP., J. S. Beckwith, 108 Parkway, N. S., Pittsburg

Agents Wanted in Unoccupied Territory

SAVE 50% ON THE COST OF HAND MIXING

Put a Smith Hand Mixer on your job. Place it above the forms, discharge into place and cut out wheeling your concrete. Move the machine, weighing only 800 lbs., as the work progresses. Have your mixer just where you want it every minute. Holds 2½ to 3 cu. ft. Capacity per day, 30 to 50 cu. yds. of first-class concrete. DON'T FORGET—costs about 50% less to operate and produces **much better concrete** than you can mix by hand.

The T. L. SMITH CO.
Majestic Building, MILWAUKEE, WIS.

Write for booklet No. 5

The Eureka Proposal

We propose to ship to any responsible party, anywhere, such equipment as may be selected, subject to satisfactory demonstration. This proposal is made in good faith; is **absolutely square,** and gives every buyer a chance to exercise his best judgment of the mixer's merit on actual work.

Ask for Catalog J

200 EUREKAS USED IN NEW YORK CITY

EUREKA MACHINE CO.
36 HANDY STREET LANSING, MICH.
General Eastern Agents, W. V. JOHNSON & CO., 1 Madison Avenue, New York

THE HARTWICK PROPORTIONING MIXER

Has a Double Mixing Trough and many superior advantages in mixing. Write Dept. "F."

Manufactured by
Hall-Holmes Mfg. Co.
826 No. Mechanic St.
JACKSON, MICHIGAN

Please Mention ENGINEERING NEWS When Writing Advertisers

HAINS CONCRETE MIXERS

Low in first cost and economical in operation. No power required to operate them. For information apply to
HAINS CONCRETE MACHINERY COMPANY, Washington, D. C.; or
H. C. MILLER, C. E., Room 7088 Metropolitan Building, New York

Ransome

ALL kinds of mechanical mixing contrivances lie behind the finished **Ransome** product of today. They were all good, too—once upon a time. And if the **Ransome** policy had been the stand-pat kind, many of them would be in use yet—instead of their improved successors.

Now take the tilting chute of the **Ransome Mixer.** It wasn't always a tilting chute. It used to be a folding chute—and a good chute, too.

But **good** isn't enough from the **Ransome** standpoint. **Good** must become **best.** So the folding chute had to give way to the present form. That's the "why" of the **Ransome Trail** in a nutshell.

Ransome Concrete Machinery Co.

DUNELLEN, N. J.

W. E. AUSTIN MACHINERY CO., Southern Sales Mgrs., Atlanta, Ga., New Orleans, Fort Worth, San Antonio
W. B. HOUGH CO., Monadnock Block, Chicago, Ill., Minneapolis, Des Moines, Detroit, Indianapolis

BOSTON, 6 Beacon St.
COLUMBUS, 1299 Fair Ave.
DENVER, Mine & Smelter Supply Co.
EL PASO, Mine & Smelter Supply Co.
KANSAS CITY, 710 Victor Bldg.
MEXICO CITY, Mexico Mine & Smelter Supply Co.
MONTREAL, F. H. Hopkins & Co.
NEW YORK, 1133 Broadway.
PHILA., Commonwealth Bldg.
PITTSBURG, Keystone Bldg.
SALT LAKE CITY, Mine & Smelter Supply Co.
SAN FRANCISCO, N. B. Livermore & Co.
SEATTLE, N. B. Livermore & Co.
ST. LOUIS, Chemical Bldg.

31-18

ANYONE CAN SAY:

"Built To Last"

but it takes more than saying it to make such a statement worth while

LAKEWOOD MIXERS

Are "Built To Last"

Because every detail of their construction is the result of years of study and ***practical experience*** in both ***the use*** and manufacture of mixers.

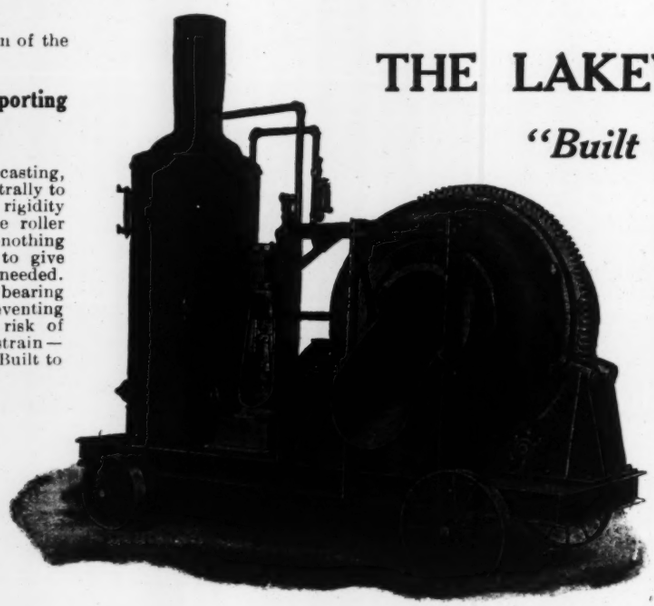
Last week we cited the construction of the drum as one proof.

Now, take the Method of Supporting and Driving the Drum

The drum gear ring is a heavy casting, carefully machined and riveted centrally to the drum. Greater strength and rigidity have been secured by casting the roller tracks with it; no added weight—nothing skimped—but the two combined to give the greatest strength where most needed. Add to this the two guide rollers bearing on each side of the gear ring—preventing lateral motion and reducing the risk of broken pinions through unequal strain—and you have **further proof** of the "Built to Last" feature of

LAKEWOOD MIXERS

Steam, Electric or Gasoline Driven
4 Sizes—Portable or Stationary
Equipped with side loaders when desired



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"Built to Last"

Mixers
Buckets
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Hoist Towers
Bin Gates
Scaffold Winches
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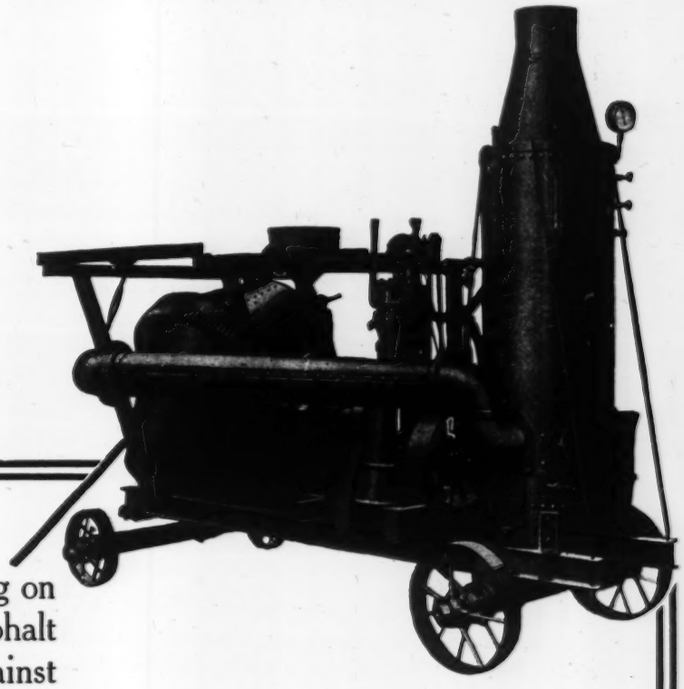

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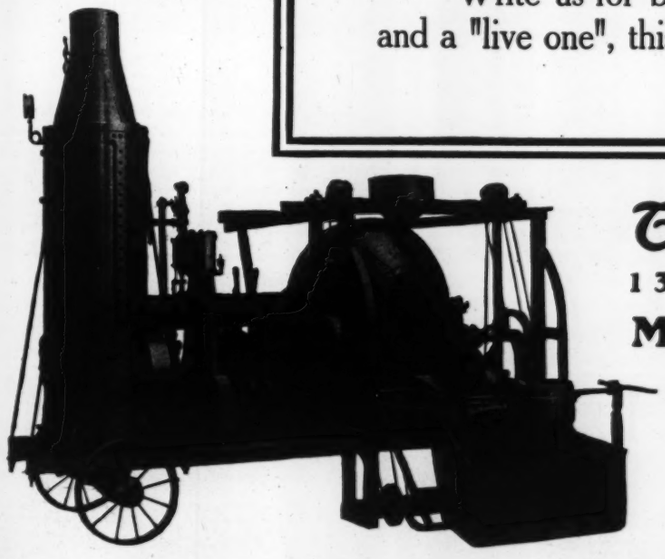
Write us for booklet 21. If you're a paving contractor and a "live one", this bet will not get past you.



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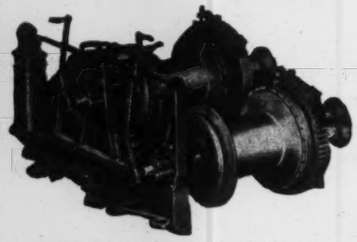

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Steam and Electric

Built to meet the requirements of contractors, railroads and general derrick work.

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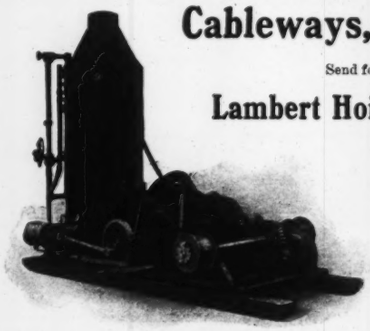

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Cableways, Electric Hoists

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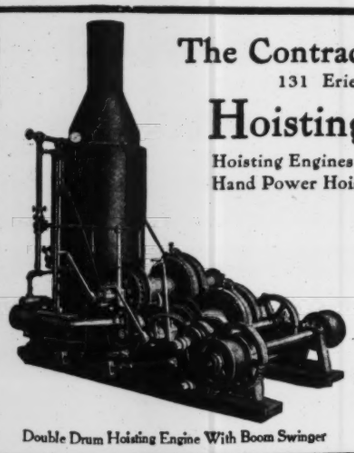

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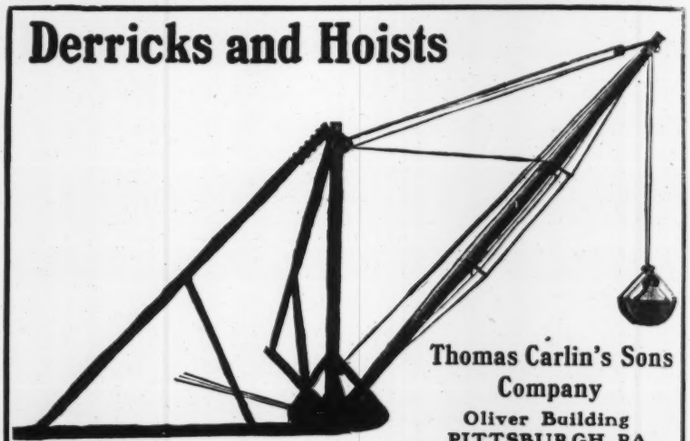

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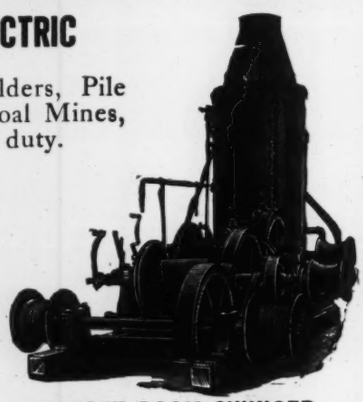

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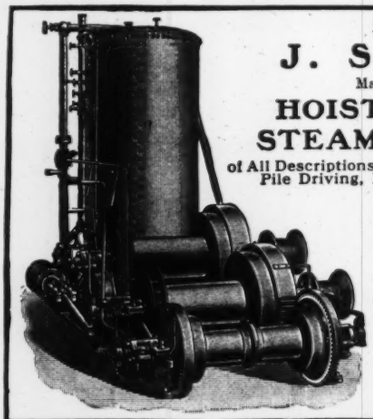

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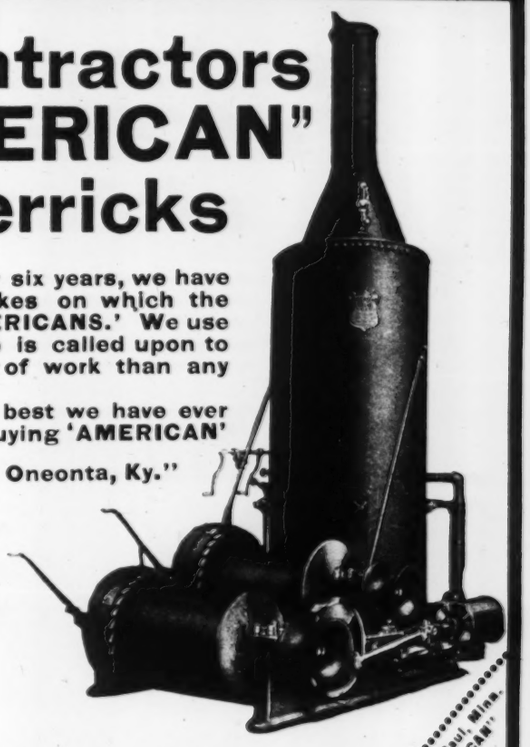

Note the tone of this letter; its enthusiasm; its unmistakable sincerity. It's not much like the letters you usually see, is it? In one form or another, every letter we receive makes statements like these.

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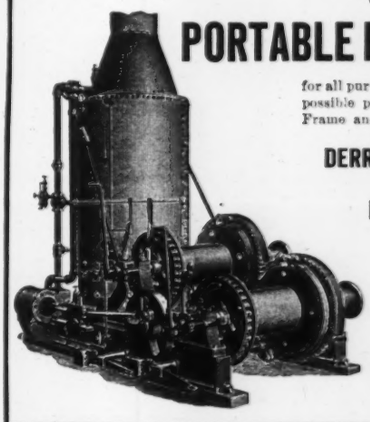

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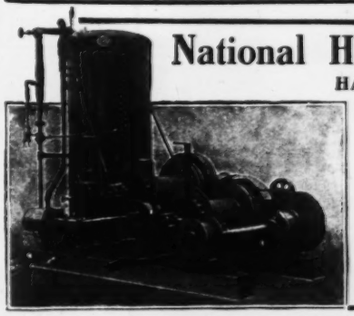

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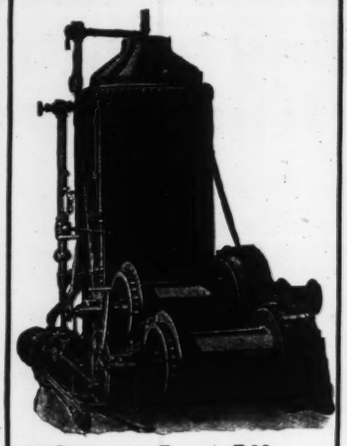

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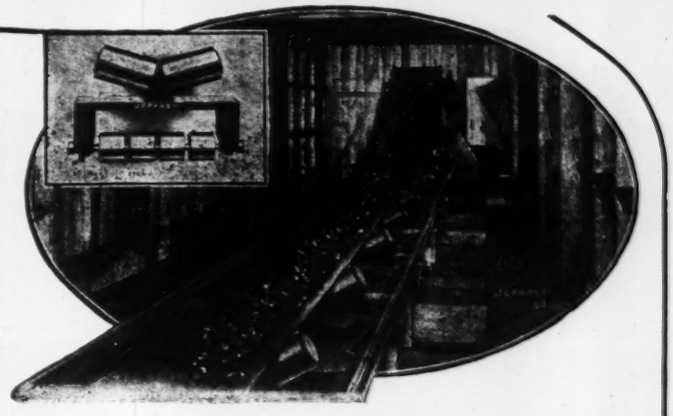

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For handling Coal, Stone, Ore, etc.

The *Belt Carriers* are strong, light in weight and perfect self-oiling.

With the use of *Jeffrey Belt Trippers* materials can be discharged into bins or at any point along the conveyer line. Write for Catalog 67

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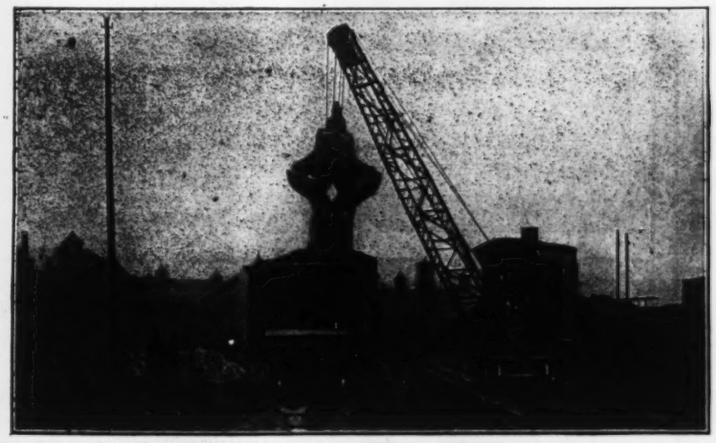

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Require small yard space.
Great flexibility.

The crane can be used in a great variety of work. Ask for latest booklet giving complete description.

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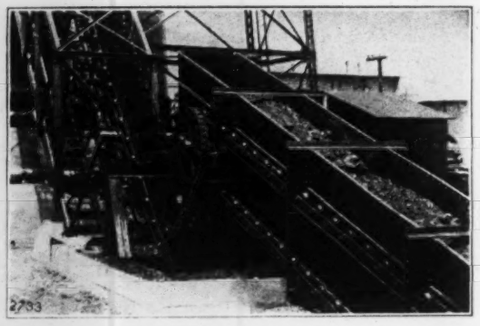

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Down to the last detail, "Link-Belt" apparatus is planned so that every part does its full share of rugged work—for the longest possible time with the least possible wear.

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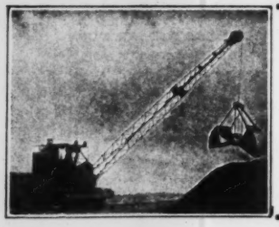

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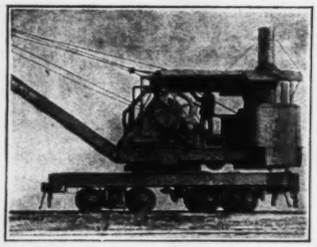
For general service, and equipped with grab buckets or lifting magnets.



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Built for Heavy Duty

Used for Severe Service

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Works at Bedford and Warren, O.

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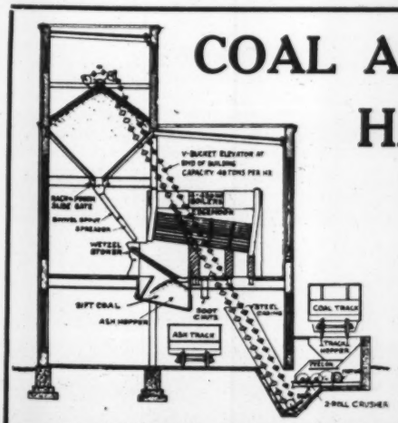

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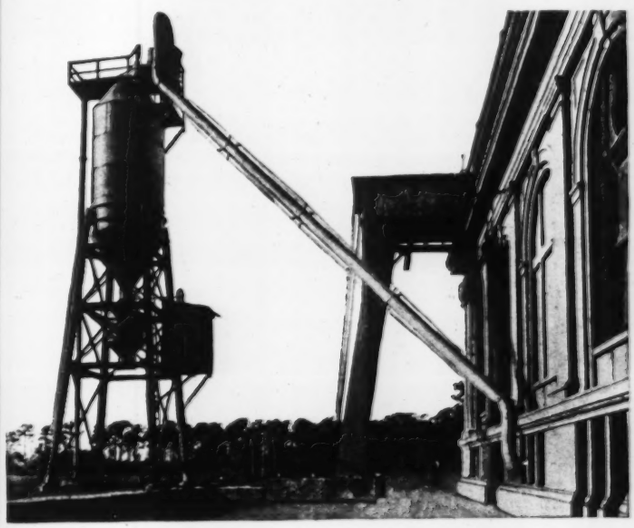
The pipe line can be run anywhere.

The only point of wear of any consequence is at the elbows of the pipe line, and they are provided with removable backs of manganese steel.

No mechanism is exposed to dust or corrosion.

With this system one man can take care of the ashes from a large plant.



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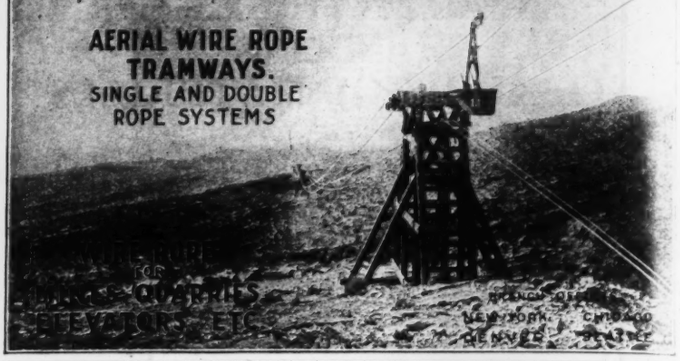

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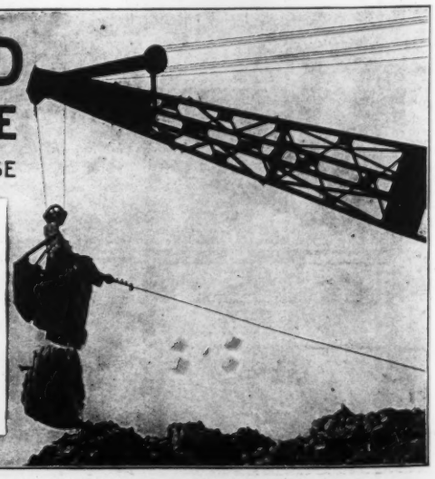

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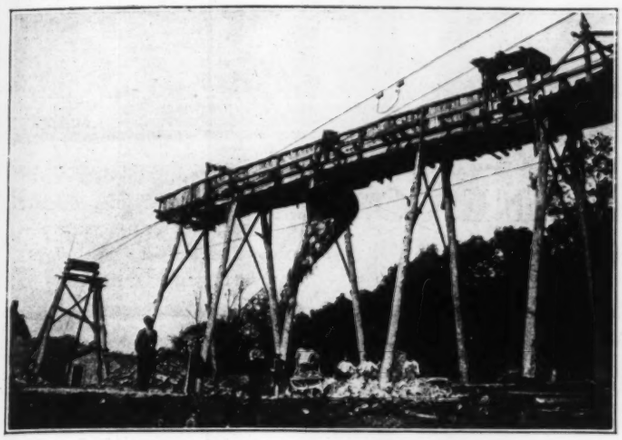

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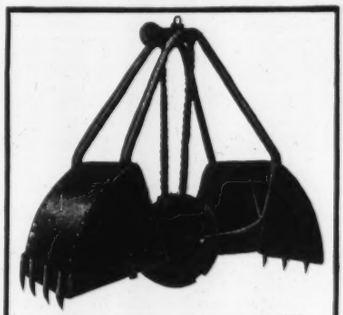

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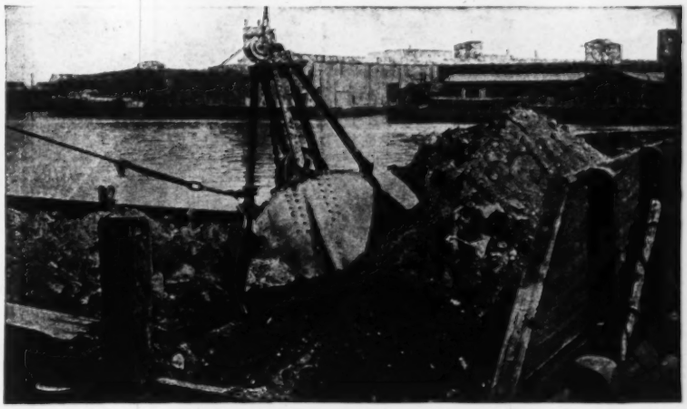

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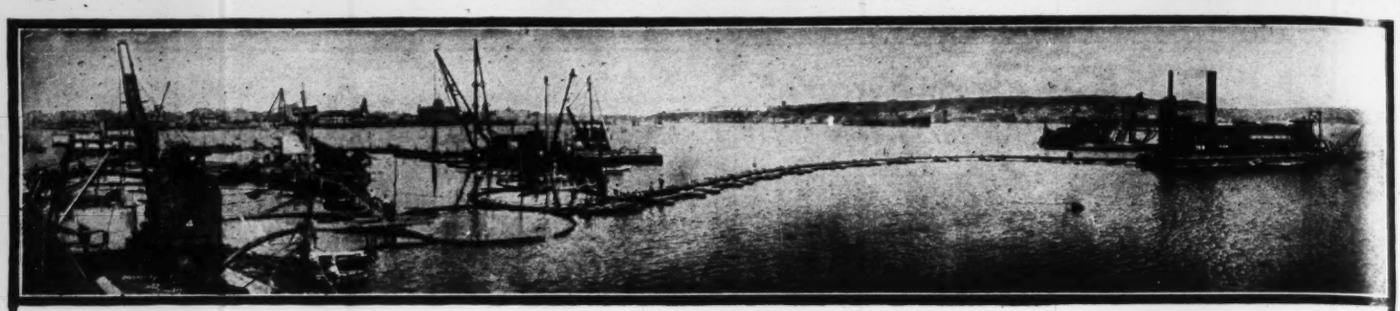

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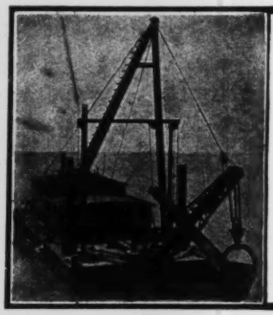

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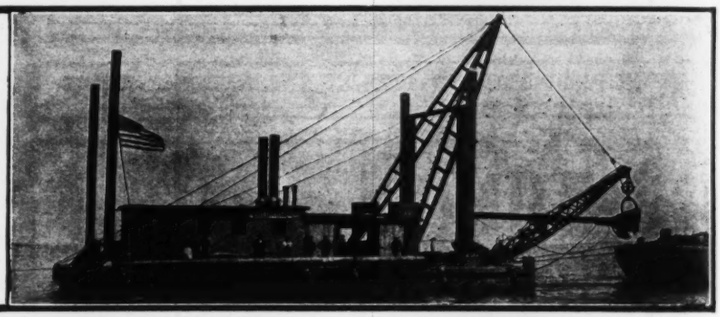

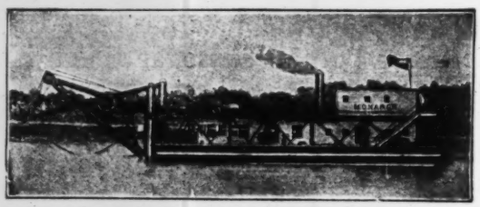

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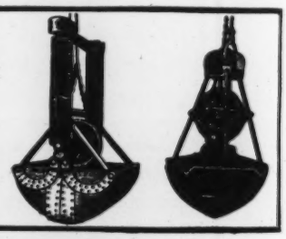

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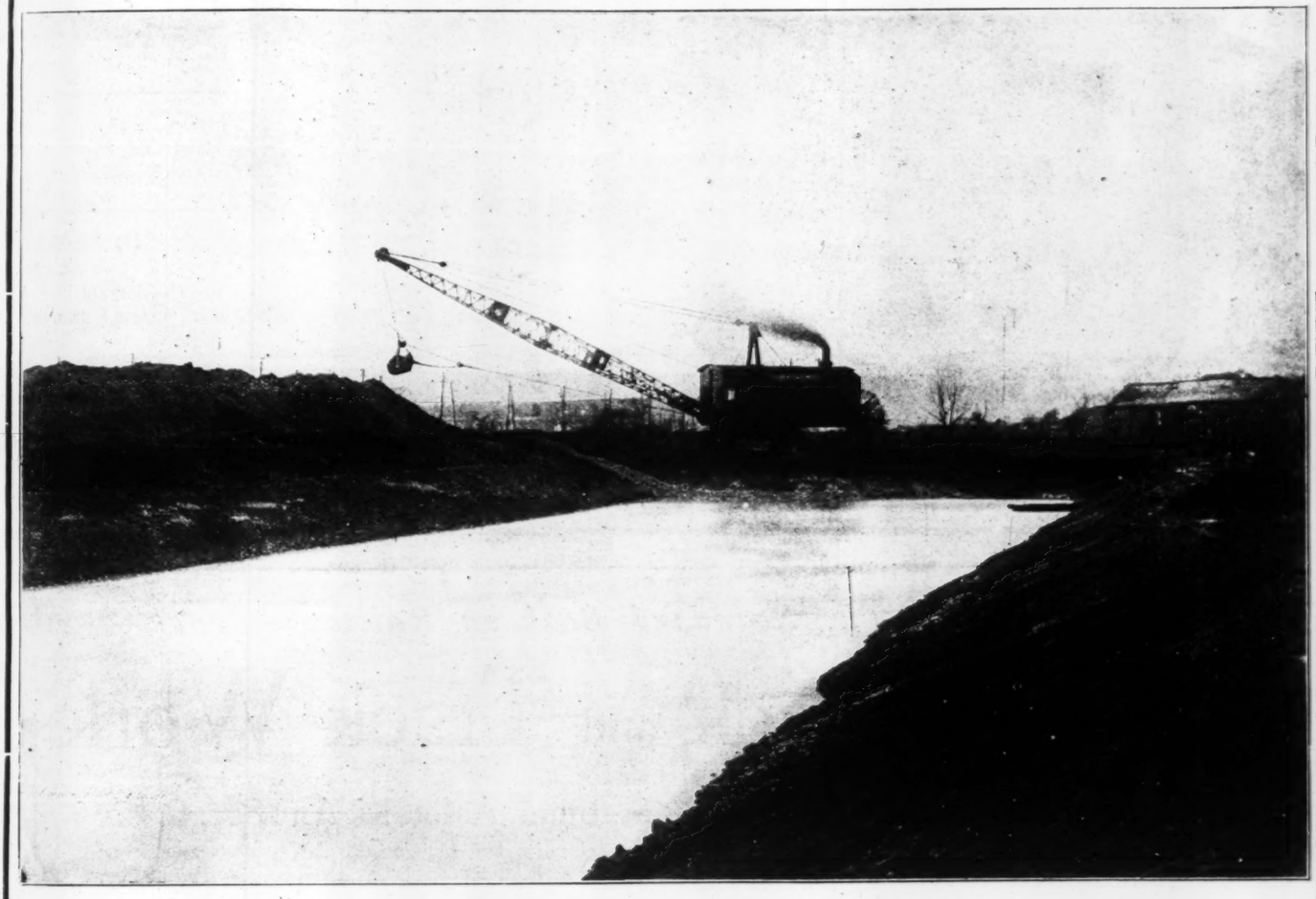

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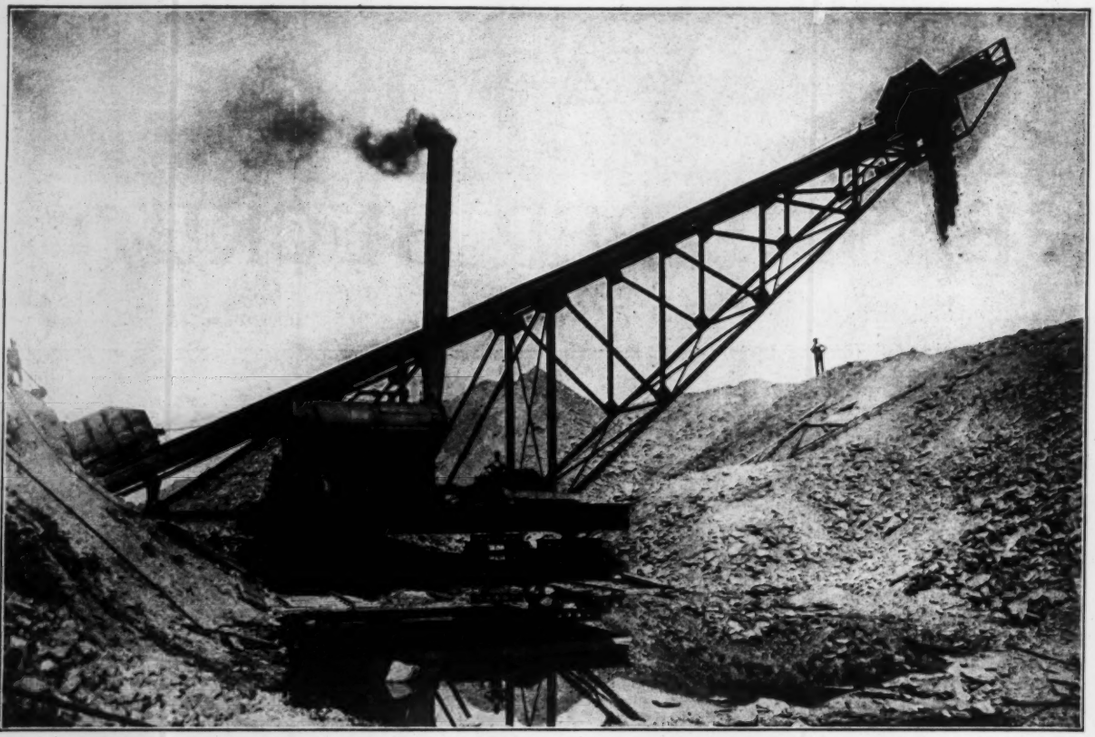

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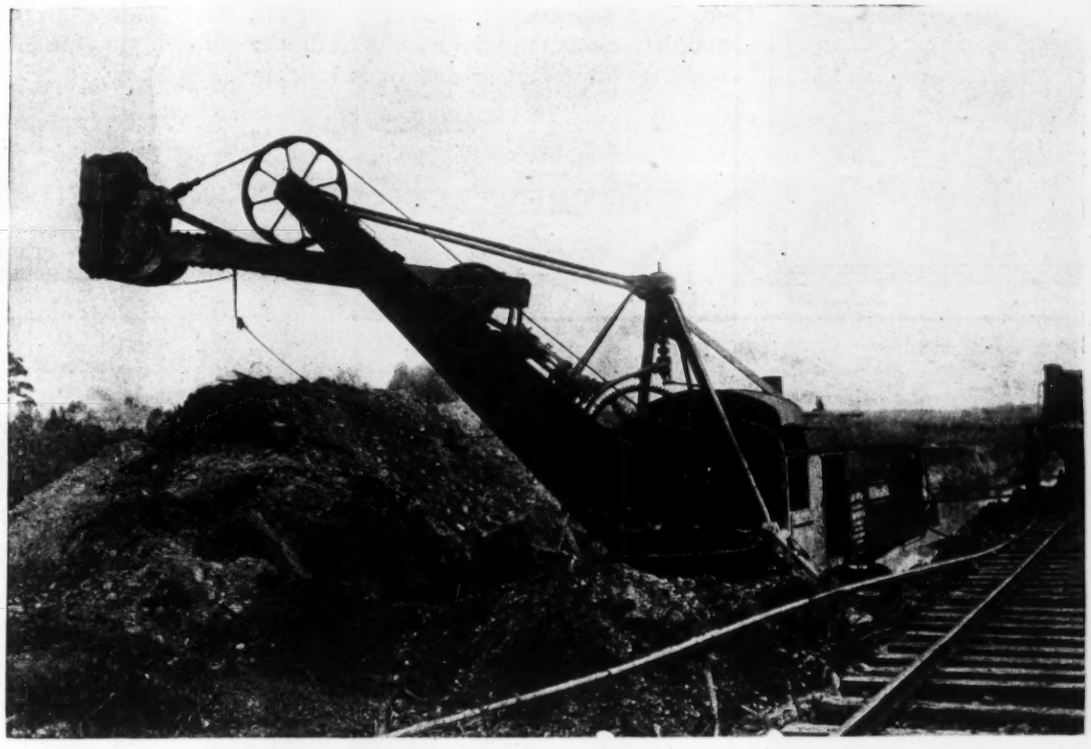

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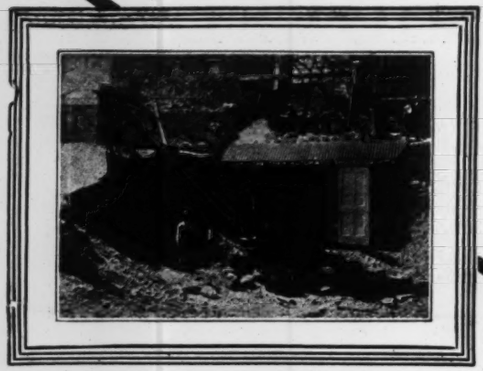

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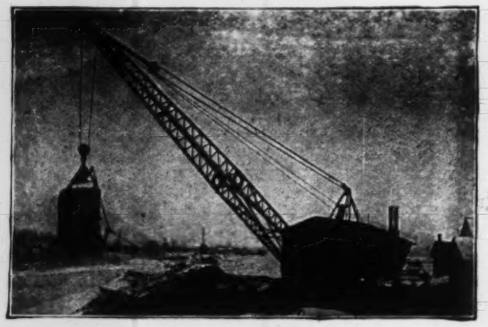

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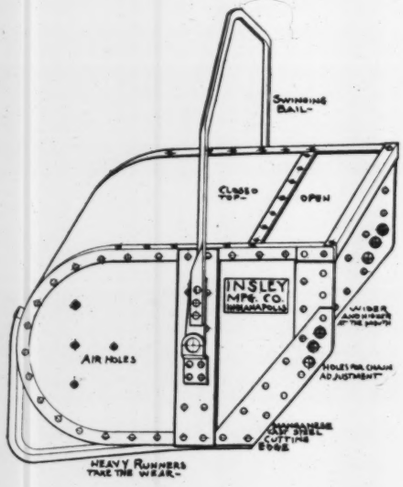

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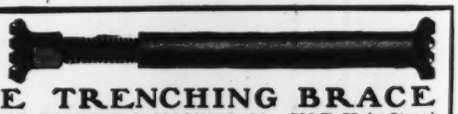

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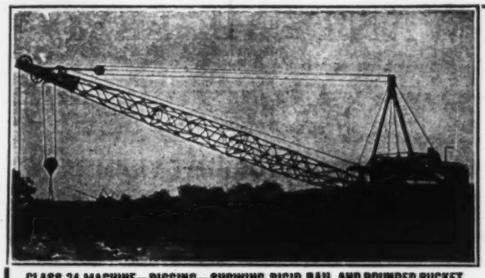

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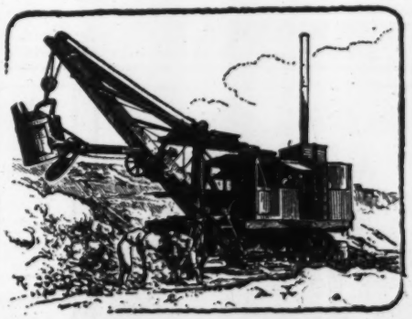

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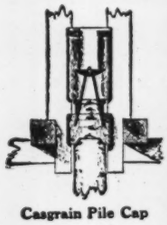
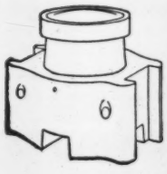
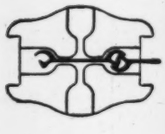
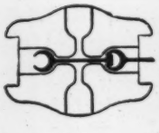


Casgrain Pile Cap







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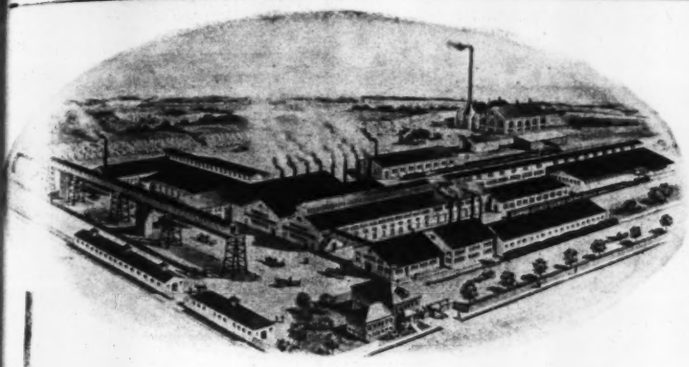

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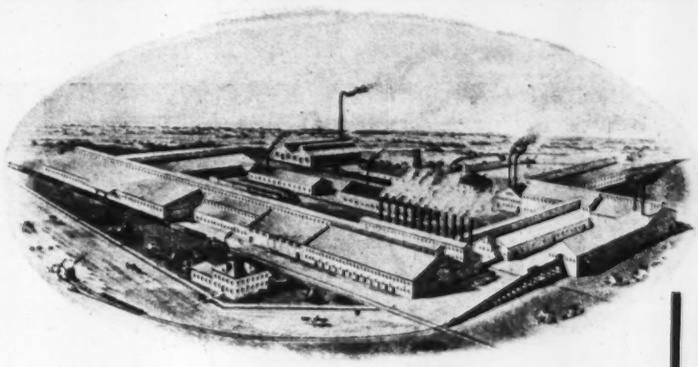

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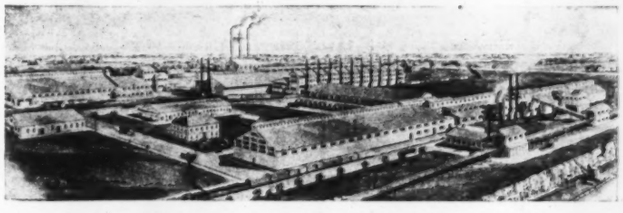

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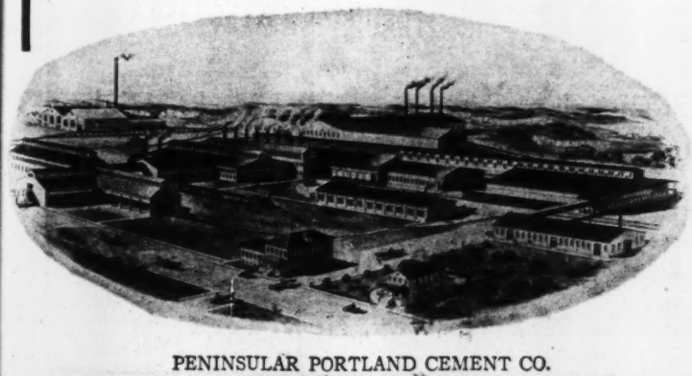

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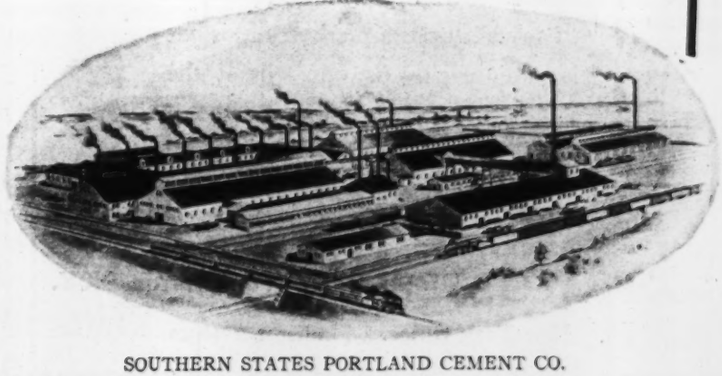

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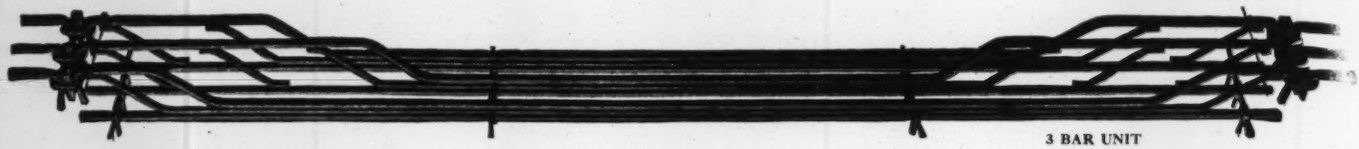

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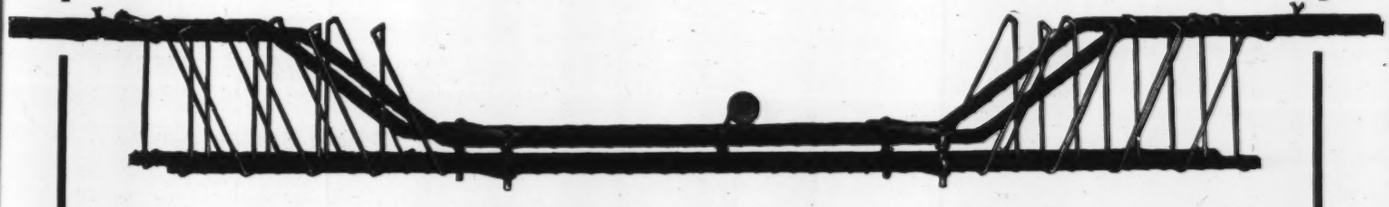

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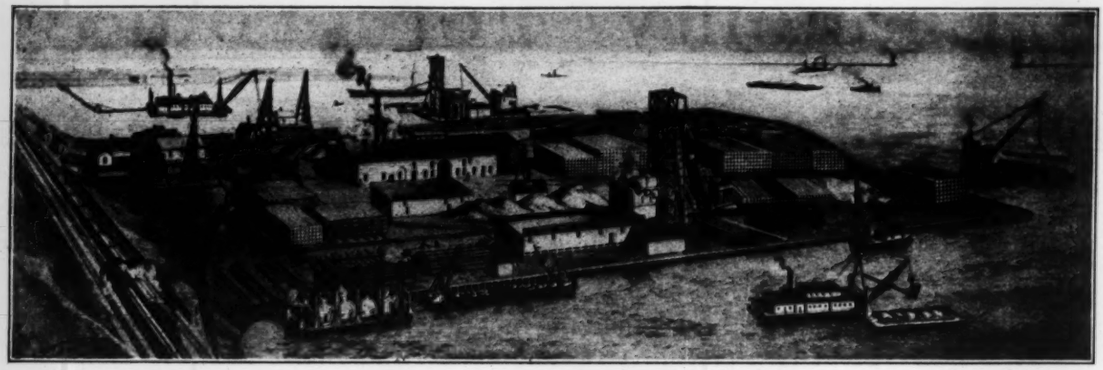

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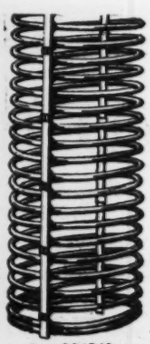

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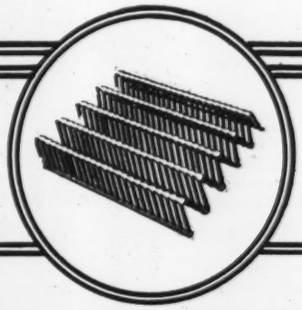

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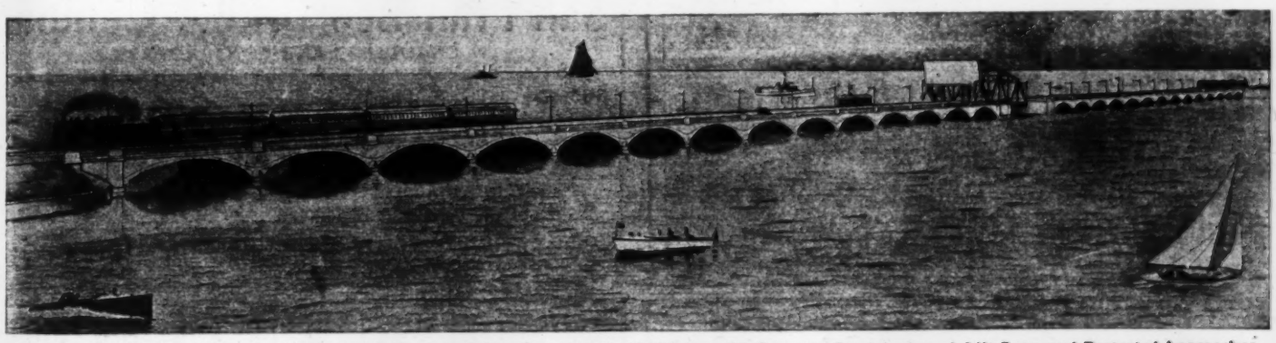

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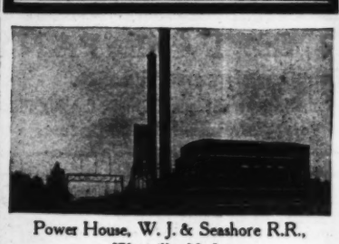

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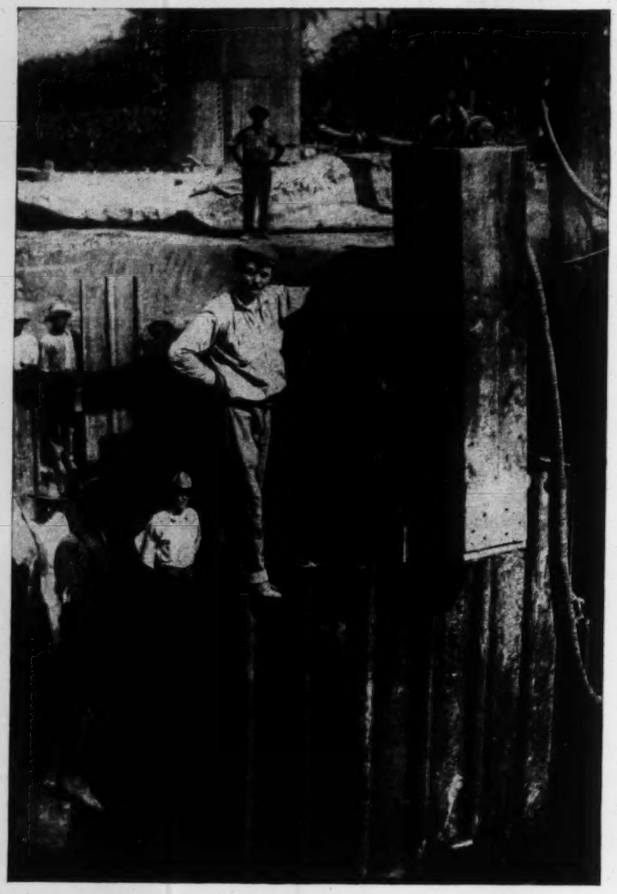

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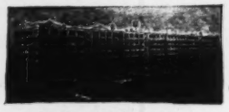

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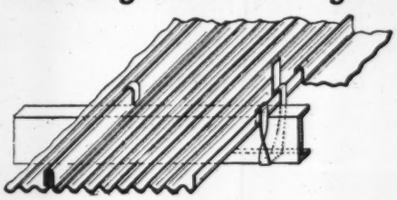

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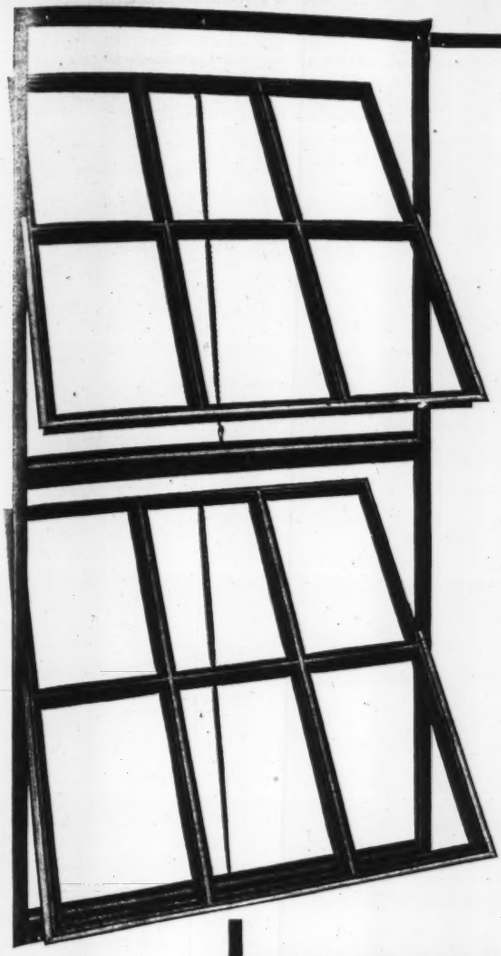

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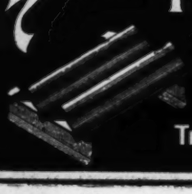

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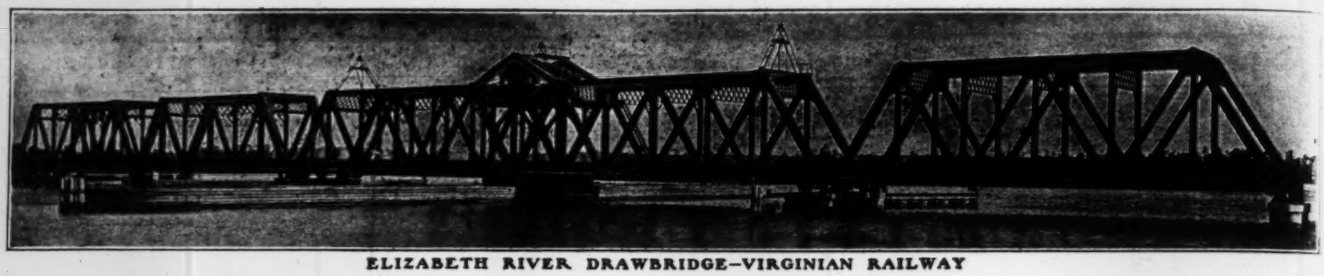

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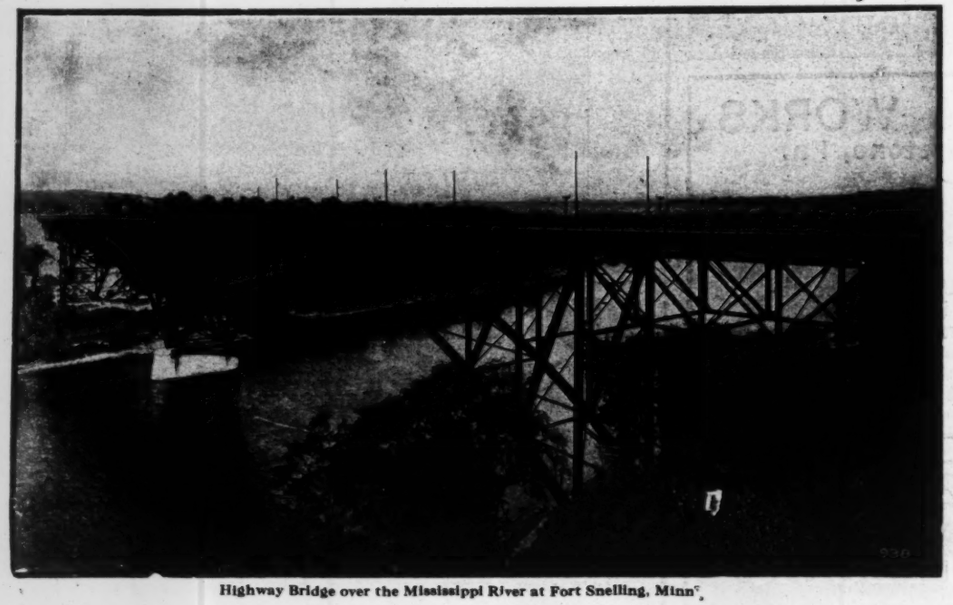

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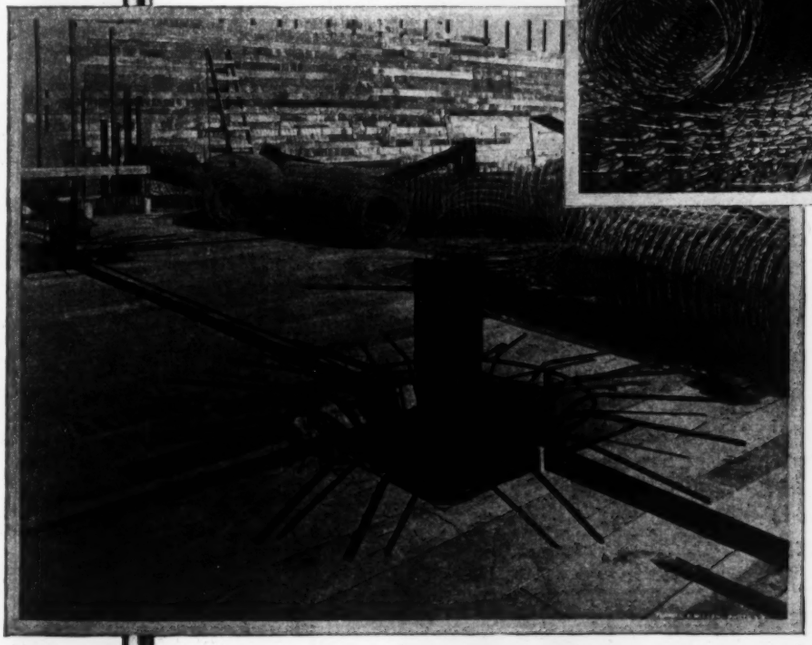

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